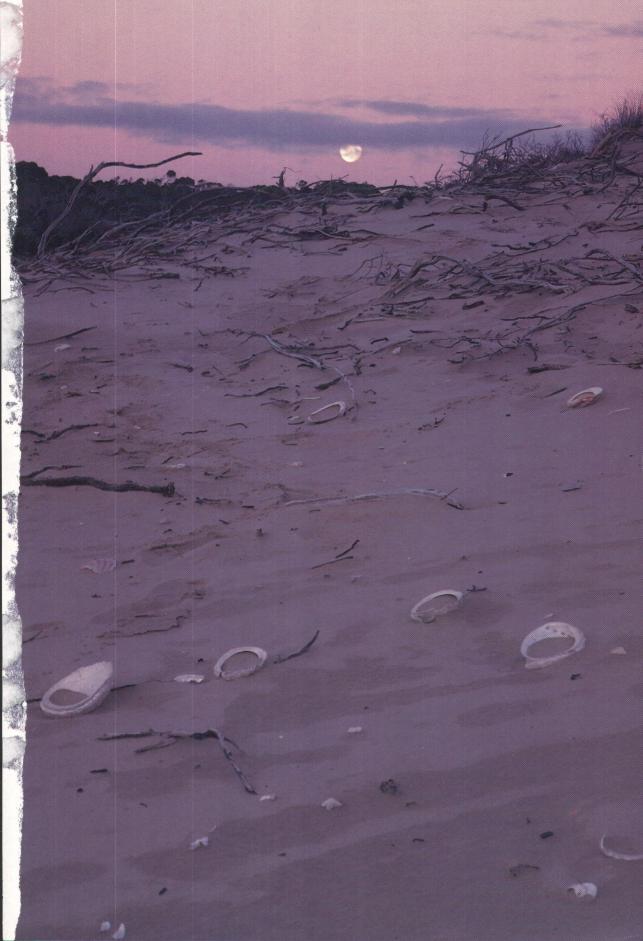


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No other amendments were made to this product.

DISCLAIMER

Users are warned that this historic issue of this publication series may contain language or views which, reflecting the authors' attitudes or that of the period in which the item was written, may be considered to be inappropriate or offensive today.



Frontispiece:

Aboriginal midden composed mostly of abalone shells at Nye Bay, South-West Tasmania. Such sites of prehistoric human habitation are of archaeological importance and meet one of the criteria that resulted in this area being included as part of the extension to

the World Heritage Area (see p. 28).

Photograph: Edward Gall

Endpapers: Photograph: Tasmanian Archives

TASMANIAN YEAR BOOK 1990



TASMANIAN YEAR BOOK

No. 22: 1990

STUART JACKSON

DEPUTY COMMONWEALTH STATISTICIAN AND GOVERNMENT STATISTICIAN OF TASMANIA

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GENERAL INFORMATION

SYMBOLS

The following symbols, where used, mean:

ASIC Australian Standard Industrial Classification

n.a. not available

n.e.c. not elsewhere classified n.e.i. not elsewhere included

n.p. not available for separate publication but included in totals where applicable

n.y.a. not yet available

p preliminary - figure or series subject to revision r figure or series revised since previous issue

.. not applicable
nil or rounded to zero

break in continuity of the series (where drawn across a column between two

consecutive figures)

Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

Where reference is made to Acts of the Commonwealth or State Parliaments, the year quoted refers to the year in which the principal Act was passed; all subsequent amendments are inferred.

VALUES AND MEASURES

Values are shown in Australian dollars (\$) or cents (c).

LOCAL NAMES OF CERTAIN REGIONS

Tasmanians describe certain regions in a manner confusing to strangers; nevertheless this book employs local usage in most contexts. The chief peculiarities are:

North-West Coast: The north coast from approximately Port Sorell, west to Cape Grim is called the North-West Coast.

North-East Coast: The north coast from approximately Low Head, east to Cape Portland is called the North-East Coast. With most of the north coast referred to as either 'north-west' or 'north-east' the term 'north' is rarely applied to this coastal region.

West Coast: The Tasmanian West Coast may also refer only to the mining settlements of Queenstown, Rosebery, etc. In other contexts, the user may be thinking of inland mountains and rainforests rather than of a coastline.

Midlands: The true Midlands are probably the Central Plateau but the Tasmanian term means the rural area east of the Plateau and lying along the axis of the Hobart-Launceston road (the Midland Highway).

PREFACE

It has been almost two years since the last issue of the *Tasmanian Year Book* was produced. A lot of things have happened in that period and a good part of that activity is reflected in the pages in this volume.

Since 1967 the production of the *Year Book* has provided an invaluable chronicle of the State of Tasmania. This comes not just from the statistical information which forms the core of the volume, but also from the wide array of written material which supplements those figures. This combination of figures and commentary is an ideal way of presenting a picture of the State. The picture is made up of many components: government, law and order; all facets of industry; health and education; sport; transport and communication — to mention but a few.

A lot of effort has gone into the production of this volume and it shows. I am indebted to all those members of the ABS Office in Tasmania who have contributed their skills and energy to making this volume possible. With a special thank you to those staff who have tackled elements of the new office technology in the production of the manuscript. I would also like to thank all those people from outside our organisation who have written commentary, supplied photographs, updated existing information or provided useful suggestions.

Statistics are not just created. They are derived from information supplied to the ABS on statistical returns completed by individuals, businesses, Commonwealth, State and local government authorities, and other organisations. The ABS appreciates and relies on the assistance of these people and organisations in all its work.

The statistics presented in this volume are only a fraction of those available. If more detail, or statistics over a longer time frame are required, there are references at the end of each chapter that provide sources of further information.

The Australian Bureau of Statistics also provides an Information Service which, on request, supplies available statistical information and publications. All publications of the ABS and other statistical material are held in the Office library which is open to the public for reference purposes. People in business, manufacturers, primary producers, government authorities, students and the public generally are invited to make use of these services. Anyone requiring advice about the availability or interpretation of statistical information is invited to contact the Information Officer on (002) 20 5800.

And if your requirements go beyond just the use of our statistics, then maybe we can help you with our Statistical Consultancy Services: designing surveys and survey forms, and analysing results. Our consultants provide expert advice and accurate information to meet a wide variety of statistical needs — personally, quickly and professionally.

I hope you enjoy this book and find it to be useful over many years to come.

STUART JACKSON

Deputy Commonwealth Statistician
and

Government Statistician of Tasmania

Australian Bureau of Statistics TASMANIA, October 1990

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The Australian Bureau of Statistics is grateful to persons, departments, companies and organisations listed below for their co-operation in contributing to this edition of the *Year Book*. At the Bureau's invitation they provided material and advice and substantially helped make this edition possible.

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Chapter 1

HISTORY AND CHRONOLOGY

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Chapter 1

HISTORY AND CHRONOLOGY

The following information on the first humans to live in Tasmania, the Tasmanian Aborigines, is reprinted from a Tasmanian Museum and Art Gallery publication, titled 'The Aboriginal People of Tasmania', by Julia Clark.

1.1 THE FIRST PEOPLE AND EARLY EXPLORATION

Aboriginal people have been in Australia for at least 50 000 years. They probably came from Java and perhaps China, crossing the sea to the Australian continent on some kind of watercraft. They then spread to the most fertile areas, arriving in Victoria at least 30 000 years ago.

The Tasmanian Aborigines arrived in Tasmania more than 20 000 years ago. They are the descendants of the first colonists of the Australian continent. By 12 000 years ago, they had become isolated from the rest of Australia by the rising sea flooding the Bass Plain. The creation of Bass Strait brought about the cultural and physical isolation of the Tasmanian Aborigines.

1.1.1 Physical Isolation

The Tasmanian Aborigines are the only people we know who remained totally isolated from other human populations for 12 000 years. As a result of this isolation, they developed certain physical characteristics which have been used to distinguish them from mainland Aborigines. These are, small to medium height, woolly hair and certain features related to the



Manalargenna (A Chief of the eastern coast of Van Diemen's Land). Photo: Tasmap Photographics

size and shape of the skull, eye sockets, nasal opening and palate.

However, all these characteristics are also found in mainland Aboriginal people. We also know now that mainland people do not all look the same. People from the Central Desert are tall and slim. People from Victoria were shorter and very muscular. Different forms of the same general group are called 'regional variations' and are also found in European populations. Tall, thin, blond Scandinavians are very different from short, stocky, dark Mediterranean people.

Regional variation accounts for the differences between Tasmanian and mainland Aboriginal populations.

From the greater number of similarities however, it is clear that both groups are very closely related and had the same ancestors.

1.1.2 Cultural Isolation

Tasmanian Aboriginal culture is different in some ways from mainland Aboriginal culture. Certain things and ideas, which must have been introduced or invented after the Bass Plain became Bass Strait, did not reach Tasmania.

- The dingo arrived in Australia within the last 5000 years, and never reached Tasmania.
- After about 5000 years ago, new stone tools entered the toolkit of all mainland groups.
 These were very small and finely made.
 These were not used in Tasmania.
- The technique of hafting stone tools i.e. fitting axes, blades or scrapers with handles, although common on the mainland, was not used in Tasmania.
- Boomerangs and spear throwers must have been invented after Tasmania was cut off, as they were not used in Tasmania. The oldest boomerangs known are 10 000 years old.

Tasmanian Aboriginals did not suffer as a result of not having these things. They had all they needed to live well and happily.

1.1.3 The Earliest Sites

Archaeologists have found that people lived in Tasmania over 20 000 years ago. They may have been here even longer.

Past events leave remains such as bones and charcoal in layers. The deepest ones are the oldest, and the ones at the top are the most recent. These remains can tell us what people were doing in the past. Radiocarbon dating can tell us when they did these things. In this way archaeologists can build up a picture of the way of life of the Aboriginal people who used the site.

Cave Bay on Hunter Island was an inland hunting camp 23 000 - 21 000 years ago. It was abandoned during glaciation 14 000 years ago. Later when the sea reached its present level 6000 years ago, it was re-occupied by people

living off the resources of the sea. Then it was abandoned again 4000 years ago. In its last phase, beginning 2500 years ago, it was again used as part of the coastal economy of Aboriginal people in the north-west. In the 1800s Aboriginal people still visited Hunter Island in summer for wallaby hunting, shellfish gathering and muttonbirding.

Beginners Luck Cave in south-central Tasmania was used by Aboriginal people more than 20 000 years ago.

Just before the beginning of the last period of intense glaciation in Tasmania, Aboriginal people were occasional visitors to the Florentine Valley; they came to hunt kangaroos and other animals on the open grasslands which were then present. They camped in the cave and left thick, crude flake tools and the charred remains of their meals.

20 000 - 15 000 years ago the Ice Age was at its most severe. The people who lived at Kuti Kina then were the world's most southerly population. They hunted wallaby in the open tundra around the cave. Their tools, called 'scrapers', were similar to those used on the mainland at the same time. These kinds of tools were used in Tasmania until the 19th Century.

Darwin glass, which is especially good for making stone tools, and ochre were brought into the area from many kilometres away. So we know that many of the aspects of traditional Tasmanian Aboriginal culture are at least 20 000 years old. These include trade and travel up and down the west coast and inland to the east, and the use of ochre.

15 000 years ago, the climate became warmer and wetter. The rainforest spread into this area. Wallabies live in open country, so they were forced out. The people who hunted them also had to move on, and Kuti Kina was abandoned.

Nicholas Marion du Fresne in 1772 was the first white man to see Tasmania's Aborigines. After a friendly meeting a misunderstanding led to fighting, resulting in several men from both sides being wounded. The size of the population when Europeans arrived in Tasmania is thought to have been about 4000 to 5000. They were not a declining society, but still evolving.

The Aboriginals had no system of recording their own history. Study of their culture was not undertaken until contact with Europeans had erased much of their culture.

1.1.4 Exploration

Not all voyages were undertaken with the aim of exploration, there was a series of voyages to nearby islands which resulted in the unintentional discovery of Australia early in the 17th Century.

- 1606 Captain William Jansz while exploring the islands of New Guinea in the Duyfken crossed Torres Strait unawares and coasted along the west of Cape York Peninsula.
- 1616 Dirk Hartog journeyed along the western shore of Australia after sailing too far east on the route from the Cape of Good Hope to Java.
- 1642 Abel Janszoon Tasman, commanding Heemskirk and Zeehan, sighted the west coast of Tasmania and named his discovery 'Anthony Van Diemensland'. Landings were made on the Forestier Peninsula and near Blackman Bay on the east coast.
- 1772 The landing of a party from the French Du Fresne expedition at Marion Bay resulted in an affray with the Aborigines.
- 1773 Tobias Furneaux, in the *Adventure*, became separated from James Cook in the *Resolution* and landed a party at Adventure Bay, Bruny Island.
- 1777 James Cook anchored the *Resolution* in Adventure Bay on his third southern expedition.
- 1789 John Henry Cox, on a sealing expedition from England, sailed the *Mercury* from Cox Bight to Maria Island.
- 1792 William Bligh, on a second voyage to the Pacific to secure breadfruit, charted the south-east coast.
- 1793 D'Entrecasteaux returned for further exploration of the south-east coast. John Hayes, commanding the Duke of Clarence expedition, explored the Derwent River.
- 1798 Matthew Flinders and George Bass circumnavigated Tasmania.
- 1802 Nicholas Baudin, commanding the Geographe and Naturaliste, explored the south-east coast.

1.2 SETTLEMENT

There were several reasons for the establishment of a settlement in Van Diemen's Land.

The need for new territories to accommodate an increasing number of transported prisoners in the early stage of Australia's settlement was perhaps the main reason. Van Diemen's Land was so remote and insular it was considered an ideal location for a penal settlement; there were few means of escape for the convicts.

- 1803 Lieutenant John Bowen accompanied by eight soldiers, 29 convicts and 10 free settlers selected Risdon Cove as Tasmania's first settlement which he named Hobart.
- 1804 Lieutenant-Governor Collins, unhappy with the Risdon site, moved the settlement to Sullivan's Cove. Lieutenant-Colonel William Paterson's settlement party landed at Port Dalrymple (Tamar Estuary).
- 1806 The Tamar settlement was moved from York Town to the Launceston area.
- 1807 Thomas Laycock's party crossed the island overland from Port Dalrymple to Hobart.
- 1812 Lieutenant-Governor Thomas Davey arrived. The northern settlements at Port Dalrymple were made subordinate to Hobart. The *Indefatigable* brought the first shipload of convicts direct from England.
- 1815 Hobart and Port Dalrymple were declared free ports for the importing of goods. Davey proclaimed martial law against bushrangers. James Kelly circumnavigated the island in a whaleboat.
- 1816 Hobart Town Gazette was first issued.
- 1817 William Sorell assumed office as Lieutenant-Governor.
- 1820 John Thomas Bigge conducted an inquiry into colonial administration.
- 1822 A penal settlement was established at Macquarie Harbour.

- 1823 A British Act for the better administration of justice in NSW and Van Diemen's Land was passed.
- 1824 The Supreme Court was inaugurated. Lieutenant-Governor George Arthur arrived.
- 1825 The first Launceston newspaper, the *Tasmania and Port Dalrymple Advertiser*, was published. Tasmania was constituted a colony independent of NSW. An Executive and Legislative Council was established. Martial law was proclaimed against Aborigines.
- A settlement was established at Emu Bay (Burnie).
- 1830 George Augustus Robinson began his mission to conciliate the Aborigines. Juries were used for the first time in civil cases. The 'Black Line', the military campaign to round up the Aborigines was commenced. Publication of *Quintus Servinton*, the first novel to be published in Australia. Port Arthur was established as a penal settlement.
- 1831 The British Government's new land regulations, discontinuing free grants of land and replacing them with land sales, were approved.
- 1832 The first shipment of Aborigines to Flinders Island occurred. A Caveat Board was established to settle land disputes and to confirm titles. Maria Island was closed as a penal settlement.
- 1833 Macquarie Harbour penal settlement was closed due to its inaccessibility and harsh natural environment. Convicts were transferred to Port Arthur.
- 1834 The Henty brothers from Launceston became the first white settlers in Victoria, occupying land in the Portland Bay area.
- 1835 John Batman sailed from Launceston to Port Phillip as agent for the Port Phillip Association. Tasmania was divided into counties and parishes. The Ross Bridge was opened. Tasmania's population was estimated as 40 172 persons.
- 1837 Sir John Franklin assumed office as Lieutenant-Governor.

1.3 SELF-GOVERNMENT

- 1838 Sessions of the Legislative Council were opened to the public.
- 1840 Convict transportation to NSW ceased; the numbers transported to Tasmania consequently increased. The population was estimated as 45 999 persons.
- 1841 A Probation System of convict discipline replaced the Assignment System. The Rossbank Observatory for magnetic and meteorological observations was established in Hobart.
- 1842 Tasmania was created a separate Anglican diocese. Hobart was made a city. Peak year for convict arrivals (5329).
- 1843 Sir John Franklin was recalled as Governor. He was succeeded by Sir John Eardley-Wilmot.
- 1844 Norfolk Island penal settlement was transferred from NSW to Tasmanian control.
- Six members of the Legislative Council (the 'Patriotic Six') resigned when the Governor used what they considered unconstitutional means to impose increased duties on various goods.
- 1846 Eardley-Wilmot was recalled.

 Launceston Church Grammar and The
 Hutchins Schools were founded.
- 1847 Sir William Denison, the new Lieutenant-Governor, re-appointed the 'Patriotic Six'.
- 1848 Tasmania was now the only place of transportation in the British Empire.
- 1850 The Anti-Transportation League was established. The population was estimated to be 68 870 persons.
- 1851 Limited representative government; first elections for 16 non-appointed members of the Legislative Council were held.
- Payable gold was first found near Fingal. Elections were held for the first municipal councils in Hobart and Launceston.

First Postage Stamps

Van Diemen's Land's first postage stamps were issued in 1853. They were not perforated, and had to be cut from the sheet with scissors. For 40 years the stamps carried a portrait of Queen Victoria, after 1899 a series showing views of Tasmanian scenery was released. These were used until 1913 when they were replaced by an Australian Commonwealth design.

- The last convicts to be transported arrived.
- 1854 Bad floods disrupted the Colony. A Bill establishing responsible government was passed.
- 1855 Sir Henry Fox Young succeeded Denison, and was accorded the title of Governor. The Constitution Act, enabling responsible government, was passed.
- 1856 Van Diemen's Land was renamed Tasmania. The advent of responsible self-government was followed by the opening of a new bi-cameral Parliament with W.T.N. Champ leading the first government in the House of Assembly.
- 1858 A Council of Education was set up and the Rural Municipalities Act passed.
- 1859 Charles Gould was appointed to undertake a geological survey of western Tasmania. A telegraph link was established with Victoria.
- The population was estimated at 89 821 persons.
- 1861 Colonel Thomas Gore Brown was appointed Governor. The telegraph cable to Victoria failed.
- 1862 A scheme for a railway between Launceston and Deloraine was promoted.
- The first successfully transported salmon and trout ova were hatched.
- 1868 Primary education was made compulsory.

1869 William Lanny, the last male full-blood Aborigine, died. Sir Richard Dry, the first Tasmanian-born Premier, died. A new telegraph cable was laid to Victoria.



William Lanny.

Photo: Tasmap Photographics

- 1870 The remaining Imperial troops were withdrawn. Population 99 328 (Census).
- 1871 Tin was discovered at Mt Bischoff.

Opening of the Launceston-Deloraine Railway

On September 15, 1868, earthworks were commenced by Overend and Robb, contractors to the Launceston and Western Railway Company to provide a rail link between Launceston and Deloraine. The line was opened on February 10, 1871. Due to financial difficulties, the company transferred the line to the government on August 3, 1872.

- 1872 A contract was let for building the Tasmanian Main Line Railway.
- 1873 The Tasmanian Main Line Railway Co. commenced construction, marking the start of an economic recovery.
- 1874 There were riots in Launceston in protest at rates levied for the Launceston-Deloraine railway.
- 1876 Race meetings commenced at Elwick.
 A gold nugget worth \$12 200 was found at Nine Mile Spring. Trugannini, the last female full-blood Aborigine died. The Main Line Railway opened for traffic.

1877 Port Arthur was closed as a penal settlement.

1878 Mineral exploration of the West Coast was increased.

1879 A rich lode of tin was discovered at Mt Heemskirk.

1880 The first telephone was installed in Tasmania with a line from Hobart to the Mount Nelson Signal Station.

1881 Population 115 705 (Census).

1883 Discovery of the 'Iron Blow' at Mt Lyell.

1885 A Russian-war scare was followed by activity in improvement of defences.

The Mt Lyell Prospecting Association was formed.

1890 The University of Tasmania was established.



University of Tasmania at its present site, at Sandy Bay. Photo: Mercury

1891 The Van Diemen's Land Bank collapsed; a deep depression ensued.

1892 The Mt Lyell Mining Co. was established.



Mt Lyell Mining Company.

Photo: Mercury

1896 Tattersalls Lottery was established by George Adams.

'Black Friday' 1897

At least 6 people and hundreds of animals were killed and an unrecorded number of houses and other buildings destroyed when a 3-day bushfire reached its peak. The fires began on Mt Wellington and quickly spread south. An outbreak at Colebrook also occurred.

1898 Tasmanians voted four to one in favour of Federation at a poll.

1899 The Southern Cross (Borchgrevinck) expedition departed Hobart for the Antarctic.

The Tasmanian contingent to fight in the Boer War departed.

1.4 FEDERATION

1901 The Commonwealth was proclaimed; polling was held for the first elections to the Federal Senate and House of Representatives. Population 172 475 (Census).

1903 The celebration of 100 years of settlement was cancelled because of a smallpox epidemic in Launceston.

Women's Vote

Suffrage was extended to women on February 29, 1904, although they remained ineligible to stand for parliament. It was not until February 14, 1922 that women became eligible for election to Parliament on the same terms as men. Voting was made compulsory for both sexes in 1928 and in 1931 enrolment was

made mandatory. In 1948 Margaret McIntyre became the first Tasmanian woman to win a parliamentary seat, in the Legislative Council.

> Margaret McIntyre. Photo: Parliamentary Library



- 1905 Experiments in wireless telegraphy between Tasmania and the mainland were undertaken.
- 1907 A new Public Library opened in Hobart, built with a gift from Andrew Carnegie.
- 1909 Irish blight wiped out the State's potato crop. The State's first Labor Government under John Earle was elected.
- 1912 A fire at the North Lyell Mine, Queenstown, trapped miners underground, 42 died.
- 1914 The first aeroplane flight in Tasmania occurred. Tasmania's first contingent to fight in the Great War departed. The Hydro-Electric Department was formed; the Government purchased a private hydro-electric power scheme and commenced a policy of encouraging high-energy-using companies to set up in Tasmania.

1.5 1915 TO 1927

- 1915 Serious bushfires occurred.
- 1917 The Electrolytic Zinc works at Risdon and the Snug carbide works were established.
- 1918 The Great War ended.
- 1919 Frozen meat was exported for the first time.
- 1920 Edward, Prince of Wales, visited. Cadbury's purchased a site at Claremont for a chocolate factory.
- **1921** Population 213 780 (Census).
- 1922 The Waddamana power station was completed.
- 1924 Superphosphate was first manufactured in Tasmania by the Electrolytic Zinc Co. at Risdon.
- 1925 Osmiridium fields were discovered at Adamsfield.
- An inquiry into a proposed bridge over the Derwent at Hobart was held. The Duke and Duchess of York visited Tasmania

1.6 THE DEPRESSION YEARS

- 1929 Automatic telephone facilities were introduced to Hobart. Economic depression and serious floods affected Tasmania.
- 1930 Export prices fell to half the 1928 levels. The Australian pound was devalued so that £1 sterling equalled £1/5s.
- 1931 The Depression continued the federal basic wage was cut by 10 per cent. An austere Premier's Plan included a conversion loan to reduce the rate of interest on internal federal debt by 22 ½ per cent. Senior Ministers, including J.A. Lyons from Tasmania resigned from the Scullin Government. Following the carrying of a vote of no-confidence in the Government, elections were held at which the Scullin Labor Government was swept from office. Lyons led the opposition United Australia Party to victory.
- 1932 Joseph Lyons was sworn in as Prime Minister.
- 1933 A Commonwealth Grants Commission was appointed to inquire into the affairs of claimant States.
- 1934 Thirty-five years of continuous Labor Government in Tasmania began with the election of the A.G. Ogilvie Ministry. The second phase of hydro-electric development commenced at Tarraleah and Butlers Gorge.
- 1936 Tasmania was linked with Victoria by a new sub-marine cable.
- An epidemic of poliomyelitis occurred. Economic recovery resulted in five shillings 'prosperity loading' being added to the federal basic wage.
- 1938 A paper mill using native hardwoods was established at Burnie. The first turbines began operating at the Tarraleah power station.
- 1939 World War II began. Prime Minister Lyons died in office.
- 1940 Tasmanians sailed for the Middle East with the Australian 6th, 7th, and 9th Divisions.

1941 Newsprint production began at Boyer on the Derwent. Tasmanians sailed for Malaya with the Australian 8th Division.



Australian Newsprint Mills, Boyer. Photo: Tasmap Photographics.

- 1942 Uniform federal income tax commenced.
- 1943 The floating-arch Hobart Bridge opened for traffic.
- 1944 Pay-as-you-earn (PAYE) income taxation was introduced from 1 July.
- 1945 World War II ended.

1.7 POST WORLD WAR II

- 1946 The Legislative Council rejected a bill to grant Federal Government price control powers for three years.
- 1947 'Displaced persons' commenced arriving from Europe. Population 257 078 (Census).
- 1948 A forty-hour week was awarded to most workers from 1 January. The High Court rejected as unconstitutional the Commonwealth Bank Nationalisation Act, 1947. Tasmanians voted 'No' almost two to one in a referendum denying Federal Government power over prices and rents. The Legislative Council's denial of Supply forced the dissolution of the House of Assembly the Cosgrove Ministry was returned to power.
- 1949 Compulsory chest x-rays were introduced in the fight against tuberculosis. The Theatre Royal was purchased by the Government.



Theatre Royal.

Photo: Mercury

- 1950 Federal petrol rationing ended.

 Dissolution of the House of Assembly was granted by the Governor and the Cosgrove Ministry was returned to power.
- Government powers in regard to communism, the 'No' vote prevailed, although Tasmanians expressed a slight preference for 'Yes'.
- 1952 A single licensing authority was established for hotels, clubs etc. The State's free hospital scheme ceased.
- 1953 The Arbitration Court abandoned the system of quarterly adjustment of the federal basic wage. State wages boards suspended quarterly basic wage adjustments.
- 1954 A bill was passed to resolve deadlocks in the House of Assembly. The Metropolitan Transport Trust was formed.
- 1955 The Bell Bay aluminium plant and the Trevallyn and Tungatinah power schemes were opened.
- 1956 The State wages board restored the 'cost-of-living' adjustments effective from 1 February but later suspended them. The EZ Company's sulphate of ammonia plant was opened. The Centenary of self-government was celebrated.
- 1957 The Legislative Council rejected a bill giving aid to private schools.
- The Rivers and Water Supply Commission was established, together with the Public Service Tribunal as an industrial authority.

The first election to fill 35 seats in the enlarged House of Assembly resulted in Labor being re-elected. The *Princess of Tasmania* commenced a roll-on roll-off ferry service from Melbourne to Devonport.

1.8 1960 TO 1980

1960 Liapootah power station was commissioned. The Zeehan-Strahan railway closed. The Inland Fisheries Commission was created. The first Tasmanian telecasts began.

1961 The William Holyman, a cargo container vessel, entered Bass Strait trade. The Legislative Council rejected equal pay legislation.

1962 The Catagunya power scheme turbines began producing electricity. State Wages Boards granted three weeks annual leave. State subsidies were announced for municipal fluoridation schemes.

1963 The Federal Court increased margins by 10 per cent and granted three weeks annual leave. The Universities Commission recommended a medical school for the Tasmanian University. The Mt Lyell railway, from Queenstown to Strahan, closed.

1964 The Tasman Bridge opened for traffic.
Hobart's water supply was fluoridated.
Glenorchy was raised to city status.

1965 Provisional driving licences were introduced. A Dental Nurse scheme for schools was implemented.

1966 Decimal currency was introduced on 14
February. The Burnie-Launceston
co-axial cable was completed. Equal pay for
certain State Public Service females was granted.
Breathalyser tests were approved for use by
police. Subscriber-trunk-dialling was introduced.

1967 The bush fire disaster of 7 February resulted in 62 deaths and over 1000 houses were destroyed. The Federal Arbitration Commission abolished the basic wage and substituted a total wage concept but the basic wage was retained in State awards. The Mt Cleveland tin mining town of Luina was completed.

The Batman Bridge across the lower Tamar was opened. The Federal Government granted a subsidy for apples and pears exported to the UK and other countries. Full adult suffrage for Legislative Council elections from 1 July 1969 was introduced. Capital punishment was abolished.



Batman Bridge.

Photo: Tasmap Photographics

1969 A State election resulted in the election of 17 ALP, 17 Liberals and one Centre Party member (Mr Kevin Lyons). Mr Lyons combined with the Liberals to form a coalition government, ending a 35-year Labor rule in Tasmania. The Full Bench of the Federal Arbitration Commission granted equal pay to females performing equal work. The copper smelter at Mt Lyell was closed; concentrate was sent to Japan and Port Pirie (SA) for treatment.

1970 The first pyrites from Rosebery were railed to the Burnie sulphuric acid plant. The EZ Co. commenced a \$6.3 million residue treatment plant. Parliament legislated to introduce permanent daylight saving.

1971 APPM Ltd's Wesley Vale paper plant was opened. The Population Census count was 390 413 persons.

1972 K.O. Lyons resigned cabinet portfolios and ended the Liberal-Centre Party Coalition. The ANL vessel *Princess of Tasmania* made her final trip to Tasmania.

1973 The Bell Bay rail link, the first legal casino in Australia, Wrest Point and the \$121 million Mersey-Forth HEC scheme were officially opened. Storeys Creek tin mine closed down. Tasmania voted in line with other Australian States on prices and incomes referenda; 'No' to both.

Blythe Star Sinking

The Transport Commission's *Blythe Star* was lost at sea. After drifting for eight days in a life raft, seven survivors were located at Deep Glen Bay on the Tasman Peninsula. Two of the 10-man crew died when the vessel sank and a third died shortly after the life raft reached shore. The 350 ton ship was bought by the State Government for the King and Flinders Islands shipping runs.

1974 Workers under State Wages Boards' awards were granted four weeks annual leave; women were awarded equal pay. The Gordon Dam was completed. A no-fault third party insurance scheme was implemented.



Gordon Dam. Photo: HEC

1975 Tasmanian suburban rail services ceased. The bulk ore carrier *Lake Illawarra* rammed the Tasman Bridge resulting in a 128-metre gap and 12 deaths. The TAB began operating. Transmission of colour television programs commenced in Tasmania. Hotels were allowed to open for Sunday trading.

1976 Sea cargo to and from Tasmania was subsidised by a freight-equalisation scheme.

1977 The Federal Government confirmed Kingston as the site for Australia's new Antarctic Division Headquarters. The Tasman Bridge was re-opened.

1978 The Tasmanian railways came under full control of the Australian National Railways Commission. All regular passenger train services in Tasmania ceased.

1979 The State Government expanded the South-West Conservation area to more than 20 per cent of the State's total area. The State's first Ombudsman was appointed. Tasmania's Parliamentary Hansard was introduced. A claim that a new Labor MHA in Franklin, Michael Aird, had breached the

Electoral Act by spending more than the statutory limit of \$1500 on his election expenses began the so-called 'Electoral' or 'Constitutional Crisis'. The HEC released a report which recommended a \$1.36 billion power development scheme involving the Lower Gordon, Franklin and King Rivers.

1.9 THE NINETEEN-EIGHTIES

for the only direct Hobart-Sydney air service. Public pressure resulted in the State Government deciding to save the Franklin River by opting to flood the Gordon at its junction with the Olga, the Gordon-above-Olga power scheme, and to construct four separate schemes on the King River. The first direct flight from Hobart to Christchurch was made by Ansett Airlines. The Upper House Select Committee recommended the HEC's proposed Gordon-below-Franklin scheme and rejected the Government proposed Gordon-above-Olga scheme legislation.

homes. The State Government placed a statewide ban on Saturday afternoon trading by companies employing more than 100 people. The Federal Government introduced a 10 per cent subsidy for airfares to and from the State. The Premier, Mr Doug Lowe, was deposed and Mr Harry Holgate replaced him as Premier. A referendum concerning the State's next power development resulted in a large informal vote but most supported the Gordon-below-Franklin option.

The South-West National Park, the 1982 Franklin-Lower Gordon Wild Rivers National Park and the Cradle Mt-Lake St Clair National Park were nominated by the Federal Government for the World Heritage List; both proposed dam sites lay within the nominated area. The World Heritage Commission placed the areas on its list despite State Government opposition. The Liberal Party formed a Government in its own right for the first time in Tasmania's history. Legislation for the \$453 million Gordon-below-Franklin power scheme passed through Parliament. The Federal Labor Party announced a no-dams policy for a Federal Government. The Senate Select Labor Committee on South-West Tasmania came out against building the dam.

1983 The Labor Party led by Mr Hawke won the Federal election. Regulations under section 69 of the National Parks and Wildlife Act 1975, gazetted by the Federal Government, made any further work on the Gordon-below-Franklin dam illegal. A Commonwealth writ, seeking an injunction to permanently stop work on the proposed Gordon-below-Franklin dam, and a Tasmanian writ seeking a declaration from the High Court that regulations under which the Commonwealth was acting were constitutionally invalid, were filed in the High Court. The High Court ruled that the Gordon-below-Franklin dam could not go ahead. The lowest temperature yet recorded in Tasmania, -13°C, was registered. The State Government sped up work on access roads for the \$460 million Henty-Anthony and King River hydro power schemes. Legislative Council approved the \$549 million King and Anthony Power schemes. The new Devonport \$6.5 million jet airport was officially opened.

1984 The \$48.5 million Bowen Bridge, and the Wrest Point Convention Centre were opened. Fire caused approximately \$1 million damage to Hobart's historic Theatre Royal. Mr Hawke and Mr Gray signed an agreement for \$270 million compensation to Tasmania for the loss of the Gordon-below-Franklin power scheme. Tasmania's first mobile breath analysis units were brought into use. The Launceston International Velodrome, costing \$6 million was officially opened.

1985 The Northern Midlands Environmental Protection Committee issued a Supreme Court writ on the Hydro-Electricity Commission in an effort to hinder survey work on the proposed coal-fired thermal power station at Conara. The State Government revealed details of a \$22 million West Coast road link between Smithton and Zeehan. The municipalities of St Leonards and Lilydale amalgamated with the City of Launceston, Hobart's \$13 million CSIRO Marine Laboratories were officially opened. The 10 per cent Commonwealth air fare subsidy for travel between Tasmania and Melbourne was abolished. The Bass Strait ferry, Empress of Australia made its final voyage from Devonport, it was replaced by the Abel Tasman. The State Government declared that 24 November would be known as Tasmania Day. Qantas joined the Tasmania-New Zealand link with its first flight from Auckland to Hobart.

1986 The Launceston City Council received \$3.3 million from the State Government to help overcome the Council's cash problems caused by redundancy payments associated with the amalgamation of St Leonards and Lilydale municipalities with the City of Launceston. discovered Tasmanian Archaeologists Aboriginal rock paintings in the South-West believed to be about 20 000 years old. The Liberal Government was re-elected with a majority of three seats, a record 15 MHAs lost their seats. Forestry workers and conservationists clashed at Farmhouse Creek, near Geeveston during an anti-logging protest. The State Government abandoned its controversial fast-track development legislation deprived Tasmanians of the right of appeal against major planning projects. The State Government and the developers of the Hobart International Hotel agreed to share the cost of replacing controversial pink bricks used in the construction of the hotel with sandstone coloured bricks. The State Government announced the Electrona silicon smelter project would proceed. The Cleveland tin mine at Luina closed. The 1986 Census counted 436 353 people in Tasmania on census night, an increase of 4.2 per cent on the 1981 count. The municipalities of Gormanston and Queenstown amalgamated to create the new municipality of Lyell. The Federal Government proposed to invoke World Heritage legislation to prevent logging Lemonthyme Forest.

1987 Wynyard Airport's jet-standard runway was opened. A High Court decision banned logging in the Lemonthyme and Southern Forests of Tasmania. General Sir Phillip Bennett was appointed Tasmania's new Governor. Aboriginal hand stencils dating back to the last Ice Age were discovered in a cave in the Cracroft Valley in Southern Tasmania. The Hobart Sheraton Hotel was officially opened by the Premier.



Sheraton Hotel. Photo: Don Stephens

Lady Nelson

Tasmania's Bicentenary Tall Ship, the *Lady Nelson* was launched. The original Lady Nelson was the first ship to sail west through Bass Strait, in 1800, and the vessel from which Hobart was established in 1803. The new ship, a full sized replica was intended to provide sail training for young Tasmanians.

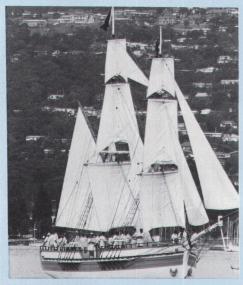


Photo: Mercury

The Australian Conservation Foundation prepared to take the Federal Government's Helsham logging inquiry in Tasmania to court to overturn the decision by the Helsham Commission of Inquiry to free four forest areas in the Lemonthyme southern forests from High Court protection. Department of Environment figures revealed pollution levels in the Tamar and North Esk Rivers posed a huge problem to Launceston. As a result the Launceston City Council announced a clean-up of the rivers and had allo-



Nella Dan. Photo: Antarctic Division

cated \$2.5 million to upgrade sewers and treatment plants. The State Government also allocated \$8.4 million over the next four years. Australia's Antarctic supply ship Nella Dan sank off Macquarie Island.

1988 January

Bicentennial Celebrations



Tall Ships on the Derwent River. Photo: Mercury

The crews of approximately 200 sailing, cruise and naval ships from approximately 20 countries visited Hobart. This was followed by a re-enactment of the landing at Risdon Cove. In October some of the biggest warships in the world including the battleship USS *New Jersey*, the French frigate *Admiral Charner* and the British destroyer HMS *Edinburgh* were in Tasmania. In Hobart, 1000 of the sailors paraded for the bicentennial naval salute.

In June, a chain of more than 60 bonfires around the State was part of a national bicentennial chain.



The Young Endeavour was the United Kingdom's bicentenary gift to Australia. Photo: Mercury

Visitors included Queen Elizabeth, the Duke of York, the Crown Prince of Thailand and Queen Beatrix of the Netherlands. The Dutch queen unveiled a sculpture by Mr Stephen Walker symbolising the first sighting of Tasmania by the Dutch explorer Abel Tasman.

February

Bisque won the \$102 500 Hobart Cup. Breaks in three water pipes which carried water to 60 per cent of the city resulted in stringent water restrictions in Launceston for several days. Arsonists were blamed for a spate of serious bushfires which destroyed about 2 000 hectares of coastal bushland in Northern Tasmania.

March

A new ambulance tax on landowners which replaced the former local government ambulance levy, aroused widespread opposition. The State Government lost its High Court challenge to the validity of the Federal Government's legislation preventing logging in the Lemonthyme and Southern forests. The ruling means that the Federal Government can stop logging in an area by nominating it for World Heritage listing. The Archbishop of Hobart the Most Revn Sir Guilford Young, died. Successful candidates in the Hobart City Council elections were: Ald Dee Alty, Ald Barry Fisher and Ald Bruce O'Connor who were all re-elected, and Mrs Darlene Haigh, Dr John Freeman, Mr Ronald Turnor and Mr Robert Bell. Ald Barry Fisher was elected deputy lord mayor. Launceston mayor, Ald Jimmy Tsinoglou was returned unopposed for a second term as mayor and Ald Robin Mckendrick was chosen as deputy mayor. Northern Tasmania's television station, TNT9 was sold for \$40 million to Victorian TV and radio operator Tricom Corporation Ltd.

April

Burnie became Tasmania's fifth city. Legislation was introduced to ban products containing chlorofluorocarbons, which deplete the ozone layer surrounding the earth. The legislation affected aerosol cans and plastic foam trays.

May

The compensation legislation covering all Tasmanian employees, whether government or private, in the event of injury or disease occurring at work or travelling to work passed the Legislative Council. Incapacitated employees are to be paid 100 per cent of their normal wage. The Helsham Inquiry found that five areas of the Lemonthyme and Southern forests qualified for World Heritage listing - Forth River Valley, Cathedral Mountain, Exit Cave, Mt Bobs and Mt Anne. These accounted for only 8 per cent of the 284 000 hectares reviewed by the commission. The Tasmanian Sporting Hall of Fame

was opened. Launceston's \$1.1 million Glen Dhu corridor providing a one kilometre link between the city centre and the Southern Outlet was opened. Mr Don Wing was re-elected for the seat of Launceston and former Queenstown warden Mr Peter Schulz won the seat of Gordon. Mr Hank Petrusma, Hobart, was returned unopposed as the result of Legislative Council Elections.

June

In the Oueen's birthday honours list Max Bingham received a knighthood for his services to government and law and cricketer. David Boon, received a MBE. North Broken Hill Holdings Ltd and CRA Ltd merged to create the world's largest zinc producer. It was an-



nounced that the Max Bingham. Photo: Mercury

company would spend \$275 million on development of Hobart's Risdon Zinc smelter and the West Coast mines at Rosebery.

July

A flu epidemic throughout Tasmanian schools resulted in absenteeism as high as 25 per cent and the closure of some schools. A foreign parasite, Trichinella spiralis, believed to have come from illegally imported meats, was found in Tasmanian Devils near Cradle Mountain.

August

Federal Cabinet announced that it would not insist on World Heritage listing if Tasmania agreed to protect 80 per cent of the Helsham Inquiry area, the Lemonthyme and Southern forests, and areas outside the inquiry area will also be barred from logging. A compensation payment of \$40 million was offered. The Tasmanian Government accepted the decision.

September

Launceston accountant Colin Hawkes Room was extradited from Washington DC to face 269 charges of fraud involving \$2.5 million. Devonport became the first northern Tasmanian team to win a Tasmanian Football League premiership when it defeated Glenorchy by 43 points.

October

Tasmania's drought status declared on March 28 was lifted on October 12 after good winter rains and mild winter temperatures supported pasture growth. Farmers had received drought assistance loans worth \$6.4 million from the Tasmanian Development Authority. A \$1 billion Wesley Vale pulp mill to be built by North Broken Hill Holdings Limited and the Canadian firm Noranda Forest Inc. was approved by the State Government. It was expected to contribute \$300 million to export earnings with the State Government receiving about \$11 million annually in royalties from the 1 800 000 tonnes of wood which would produce 440 000 tonnes of bleached draft pulp for export.

Obituary

Mr Mervyn Everett, a former Tasmanian Deputy Premier died. He was elected to the House of Assembly in 1964 and was Health Minister between 1964 and 1969. In 1972, he became Deputy Premier and Attorney-General. He was elected to the Senate in 1974. In 1978, he was appointed to the Tasmanian Supreme Court and then he became a Federal Court judge. In 1984 he was appointed president of the Interstate Commission and revamped Tasmania's Freight Equalisation Scheme and investigated Tasmanian coastal shipping.

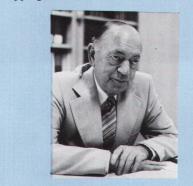


Photo: Mercury

November

It was announced that the University of Tasmania will receive \$8 500 000 from the Federal Government to construct its new Institute of Antarctic and Southern Ocean Studies building within the next three years. An additional 1000 places at a cost of \$9 000 000 will be created in the State's tertiary institutions during the 1989-91 triennium. The new Roman Catholic Archbi-

shop of Hobart, Dr Eric D'Arcy was installed at St Mary's Cathedral. Legislation introduced in the House of Assembly to approve the Wesley Vale chemical pulp mill provided for the stripping of North Broken Hill's traditional forestry concessions but guaranteed the company



a stable wood supply. Dr Eric D'Arcy. The Forestry Commis- Photo: Mercury

sion gained tough policing powers including the right to enter NBH property to ensure the joint venturers do not pulp saw logs and are abiding by new management regulations. Pollution levels in the Tamar, North Esk and Mersey rivers remained alarmingly high and parts were unfit for swimming or the taking of fish. Work began south of Perth on a \$2.7 million optic fibre cable to link Northern and Southern Tasmania. Clarence became Tasmania's sixth city.

Forest agreement

In an agreement signed between the Commonwealth and Tasmanian Governments, 80 per cent or 260 000 hectares of the Lemonthyme and Southern forests as well as the Walls of Jerusalem National Park and the Central Plateau conservation area were to be jointly nominated for World Heritage listing, taking Tasmania's total World Heritage area to 1 029 355 hectares, or 15.2 per cent of the State. A further 100 000 hectares in the Denison Spires region were to become national park under State legislation, with future mining and hydro development allowed.

Concessions:

- 1. The Federal Government will pay out \$50 million in compensation including \$30 million for forest plantations, \$5 million for training and a special grant of \$8 million for forest work done in the forests.
- 2. Canberra approved an export licence for the controversial Huon Forests Products venture and agreed to boost Tasmania's annual woodchip export quota by 790 000 tonnes to 3.6 million tonnes a year.
- 3. The Prime Minister Mr Hawke, reaffirmed his promise of no more forest enquiries in Tasmania and no more World Heritage

listings without the concurrence of the State Government.

- 4. Logging to be continued in National Estate areas, subject to consultative arrangements in place and proposed.
- 5. The two wood veneer plants at Boyer and Somerset guaranteed continued operations.

Obituary

December

Lloyd Rees, an artist of international reputation, died in

reputation, died in Hobart, aged 93. Born in Brisbane, he lived much of his life in Sydney.



Photo: Mercury

Despite failing eyesight he worked on creating dazzling, luminous landscapes. He worked in his Sandy Bay studio for an exhibition in Paris in 1987 which was the focus of an Australian trade fair.

A \$350 000 observation deck on Mt Wellington was opened. In the Sydney to Hobart yacht race, *Illusion* won handicap honours with *Mirrabooka* the first Tasmanian yacht to finish.

1989 January

The State Parliament approved strict environmental guidelines on the proposed \$1 billion Wesley Vale chemical pulp mill. They included a requirement for a tertiary treatment of plant liquid effluent. The developers admitted that standards for noise and odour could be met but guidelines for purity of effluent were 'tougher than modern technology could handle'.

Despite strong objections the Latrobe Council gave planning approval for the Wesley Vale pulp mill to proceed.

February

A \$16 million contract to build a high-speed 350-passenger, 80 vehicle ferry to connect George Town and Port Welshpool in Victoria was signed between Tas Ferry Services Pty Ltd and International Catamarans.

A Thursday Qantas flight linking Hobart with international connections through Sydney was inaugurated. Tourism and producers of high-value Tasmanian exports such as crayfish and Atlantic Salmon will benefit.

Tasmanian-bred Nakagima won the \$102 500 Hobart Cup.

Agreement was reached between the developers of the Wesley Vale pulp mill, Noranda and North Broken Hill Peko Pty Ltd, and the State Government concerning the environmental guidelines for the mill leaving approval by State Parliament of legislation covering the new environmental guidelines and approval by the Foreign Investment Review Board of Noranda Forests' investment in the project as the final hurdle to the \$1 billion project.

Shykoski won the \$100 000 Winfield Launceston Cup.

The rewritten environmental guidelines for the Wesley Vale Pulp Mill were released with changes being made in four areas - the amount of chlorine dioxide substitution, dioxin emissions, non exemptions for 12 months commissioning period, and odour level at the boundary.

The first sod of the Wesley Vale pulp mill was turned before State Parliament met to approve changes to the environmental guidelines and a month before Federal Cabinet considered the project.

More than 1 200 sheep breeders from 15 countries attended the second World Sheep and Wool Congress in Hobart.



Photo: Mercury

Tasmanian nurses were awarded a new career and salary structure by the Australian Conciliation and Arbitration Commission Full Bench, ending a 12-month campaign by the Australian Nurses Federation.

March

The State Higher School Certificate exam system was attacked for faulty compilation of marks, with 67 new certificates being awarded.

The Commonwealth Department of Primary Industry and the Commonwealth Environment Department as well as the CSIRO scientifically evaluated the environmental effects of the proposed Wesley Vale pulp mill for consideration by Federal Cabinet.

An outbreak of Legionnaires Disease in Burnie resulted in 3 deaths and 26 confirmed cases of the disease. The Burnie division of the North-West General Hospital and the Burnie Civic Centre were confirmed as the sources of the Legionnaires Disease bacteria. An inquiry was held to determine why monthly tests of the hospitals's air conditioning towers failed to detect the bacteria.

North Broken Hill and Noranda Forests terminated negotiations with the Federal Government concerning the Wesley Vale Pulp Mill and announced that the mill would not go ahead. The State Government launched a campaign to find a successor to the failed North Broken Hill - Noranda pulp mill project at Wesley Vale.

April

Cathy Edwards was elected Mayor of Clarence in the first public election of the new city council.

About 25 semi-trailer loads of garbage were collected from the shores of the Derwent River by about 10 000 people in a clean-up campaign organised by Friends of the Derwent.

Hospital Point on the southern shore of York Cove at George Town was selected as the terminal for the new Bass Strait catamaran ferry.

May

A State election was held, nine months before the four-year term was due to complete its course. The Liberal Party won 17 seats, Labor 13 and the Independents 5. After negotiations with the two major parties the Independents signed an accord with the Labor members to form government. The State Government received \$585.5 million in funds for the provision of government services at the Premiers' Conference, \$7.3 million less than the previous year.

Legislative Council elections were held in the electorates of Tamar, Queenborough, West Devon and Pembroke. Mr John Loone, Mr John Stopp, Mr Hugh Hiscutt and Mr Peter McKay won the seats respectively.

Mr Gray requested that the Liberal minority government be sworn in by the Governor. Labor and Independent members of the House of Assembly stated that they would combine to pass a motion of no confidence in the Gray government at the first sitting of Parliament.

June

The State Government revealed that the cost of cleaning pollution from the Tamar and Derwent rivers would be \$250 million.

Obituary

Former Tasmanian politician and broadcaster, Mr Ray Sherry, died aged 65. Born in Sydney, he served in World War II and moved to Hobart in 1960. He was elected to the House of Representatives in the seat of Franklin in 1969, six years later he was defeated by Mr Bruce Goodluck. Mr Sherry was elected as a State Labor Member for Franklin in 1976 and served his constituency for 2 years.

A Melbourne man was charged with offering a \$110 000 bribe to newly elected Bass Labor MHA Mr Jim Cox to vote in support of the Gray Government when parliament resumed on 28 June. Prominent Launceston businessman, Edmund Rouse, was also arrested.

The Gray Liberal Government faced a vote of no confidence by the Independent and Labor MHAs in parliament. Debate on the motion lasted throughout the night ending with Mr Gray's government being defeated.

Mr Michael Field was sworn in as Tasmania's new premier after the resignation of Mr Gray.

July

ENT's managing director, David McQuestin, appeared in court on charges relating to the attempted bribery of Jim Cox MHA.

The Field Labor Government announced plans to reform the State Public Service by re-

shaping 50 departments, authorities and agencies into 18 super departments.

August

The \$44 million Launceston International Hotel was officially opened.

N W Coast construction company, John De Jong Builders announced its closure. 46 employees were retrenched as a result of the slump in building.

Tasmania's primary export industry was severely disrupted by work bans placed by pilots on domestic airlines. The export industries seriously affected included those involved with seafood and vegetables destined for interstate and international markets.

Former Launceston accountant, Colin Hawkes Room, was found guilty of 193 charges of stealing nearly \$2 million. The 4 month trial was the longest running trial in Tasmanian history. The jury spent more time deliberating than any previous jury and more documents were tabled than in any previous trial.

An industrial dispute involving domestic airline pilots seriously affected Tasmania. Airlines of Tasmania ran additional flights and the *Abel Tasman* allowed the usually-banned foot passengers to board in order to assist stranded travellers. The fresh seafood export industry faced devastation and tourist operators claimed their business had been reduced by 50 per cent.

September

The first 747 flight into Tasmania occurred.

The State Minister for Health, Mr John White, announced a review of conditions at the Royal Derwent Hospital following the findings of the Pettifer Report on Willow Court, a centre for the care of intellectually disabled persons.



Qantas 747 at Hobart Airport. Photo: Mercury

Amalgamation of Tasmania's three tertiary education institutions involving 7500 students and 640 academic staff began.

North Hobart defeated Hobart 130 points to 100 in the 1989 TFL Grand final.

October

The State Government received seven expressions of interest from companies interested in building a chlorine bleached pulp mill in Tasmania.

The State Government considered setting up its own airline to ease the crippling effects of the pilots' dispute on Tasmanian tourism. The plan was estimated to cost a minimum of \$75 million. The State Government released a list of 25 schools selected for closure.

November

Tasmania's Par Avion airline announced a \$5 million expansion of its services to include daily flights between Launceston and Essendon airport. The first flight left Launceston on 7 November 1989.

Obituary

Mr Bill Neilson, former minister and Premier of Tasmania died, aged 64. William Arthur Neilson was Tasmania's 44th Premier before becoming Tasmania's Agent-General in



Photo: Mercury

London. In 1946, aged 21, he was the youngest Australian ever to be elected to a parliament. As Minister for Education in the 1960's he pioneered many education reforms.

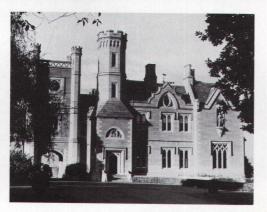
Plans to open Australia's only sub-Antarctic island (Macquarie Island) to tourism were approved.

Miss Tasmania 1990, Rachel White of Devonport, was crowned. Miss Tasmania Fundraiser was Mandy Davey.

The Police and Emergency Services Minister, Mr Wriedt, launched a 'proof of age identification card'. The cards are to be used in the battle against under-age drinking.

December

The first opening of Government House to the public attracted 20 000 visitors.



Government House.

Photo: Mercury

Criminals, the mentally ill, and people under a domestic restraint order will be prevented from owning or buying firearms in Tasmania under tough gun law reforms proposed by the State Government.

All but five of the 19 schools on the State Government's list were saved from closure in an historic deal struck between the Independents and the Legislative Council.

Tasmania held its first Test match at the Bellerive Oval between Sri Lanka and Australia.

The East Coast Douglas-Apsley area was declared a national park.

Ultimate Challenge won the 1989 Sydney-Hobart yacht race on handicap and *Drumbeat* took line honours.

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Chapter 2

PHYSICAL ENVIRONMENT

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Chapter 2

PHYSICAL ENVIRONMENT

The State of Tasmania is a group of islands lying south of the south-east corner of the Australian mainland. Roughly shield-shaped with the greatest breadth in the north, the Tasmanian mainland extends from 40°38′ to 43°39′ south latitude and from 144°36′ to 148°23′ east longitude. The coastline is bounded by the Southern Ocean on the south and west and the Tasman Sea on the east, while the approximately 240 kilometres wide Bass Strait separates the island from the Australian mainland. Macquarie Island, a part of the State, is situated at 54°38′ south latitude, 158°53′ east longitude in the Southern Ocean.

The area of the whole State, including the lesser islands, is 68 331 square kilometres or about 0.9 per cent of the total area of Australia (7 686 900 square kilometres); it is just under one-third the size of Victoria, the smallest mainland State, and is less than half the size of England and Wales.

O 1 ADEA OF ICLANDO

Island	Area (square kilometres)
Badger	10
Bruny	362
Cape Barren	445
Clarke	113
Flinders	1 374
Hunter	74
King	1 099
Macquarie	123
Maria	101
Prime Seal	10
Robbins	101
Schouten	34
Three Hummock	70
Vansittart	6
Total islands	3 922
Mainland Tasmania	64 409
Total Tasmania	68 331



Mainland Australia, extending north of the Tropic of Capricorn, and with much of its area in the zone of the sub-tropical anti-cyclones, is basically a warm, dry continent. Tasmania is in the temperate zone and practically the whole island is well watered with no marked seasonal concentration; there are no deserts or drought areas as found extensively on the adjacent mainland. Being south of latitude 40°, it is on the edge of the wind belt commonly known as

the 'Roaring Forties' and, with South America the nearest land mass to the west, Tasmania's weather is subject at times to strong winds and heavy rain about the south and west coastal areas. Its insular position provides protection against temperature extremes - the variation between summer and winter mean temperatures in coastal towns rarely exceeds 8° Celsius.

Apart from the Great Dividing Range in the east, continental Australia is predominantly a land of low plateaux and plains with little relief. In contrast, Tasmania could legitimately be called the island of mountains, since it has the largest proportion of high country to its total area, compared with the other States.

2.1 PHYSIOGRAPHY

Tasmania, a mere 296 kilometres from north to south and 315 kilometres from east to west, has a wide variety of mountains, plateaux and plains, of rivers, lakes, and tarns, of forest, moorland and grassland, of towns, farms and uninhabited (and virtually unexplored) country.

The temperate maritime climate partly explains Tasmania being called the most English of all States but other factors operate to heighten the comparison - the pattern of agricultural settlement with orchards, hedges and hopfields; the lake country; the early freestone architecture still common in the east and south-east and the roadsides and villages dotted with oaks, elms and poplars.

With six mountains exceeding 1500 metres, 28 above 1220 and a substantial part of the Central Plateau above 900 metres, Tasmania is truly an island of mountains. The tallest is Mt Ossa (1617 metres) located with a group of mountains, including Cradle Mountain, to the north-east of Queenstown and west of the highland lake country on the Central Plateau containing Lake St Clair, Australia's deepest natural freshwater lake.

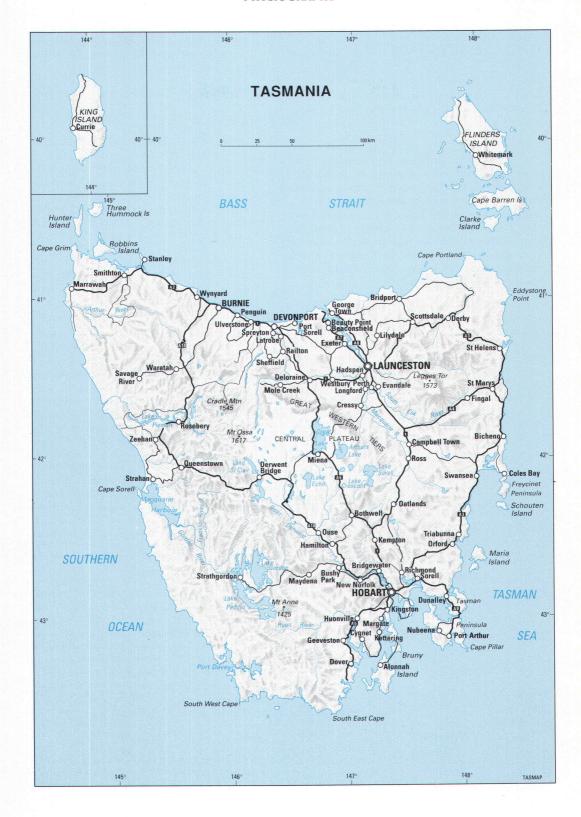
Although the rivers are short, Tasmania is virtually criss-crossed by a network of rivers and lake systems. In the south, the Derwent flows from the Central Highlands past Hobart, providing one of the world's best harbours, to the sea at Storm Bay. The Huon River takes the waters of the south-west from the Gordon and Franklin Rivers at Lake Pedder. The State's longest river

2.2 MOUNTAINS, LAKES AND RIVERS

Mountains	Height (metres)
Mt Ossa	1 617
Legges Tor	1 573
Barn Bluff	1 559
Mt Pelion West	1 554
Cradle Mountain	1 545
Stacks Bluff	1 527
Mt Gould	1 491
Mt Jerusalem	1 491
Mt Olympus	1 447
Frenchmans Cap	1 443
Mt Ironstone	1 443
Wit Houstone	1 443
	Area (square
Lakes	kilometres)
Lake Gordon (a)	272
Lake Pedder (b)	241
Great Lake (c)	170
Arthurs Lake (c)	64
Lake Sorell (c)	52
Lake King William (a)	41
Lake Echo (c)	41
Lake Mackintosh (a)	29
Lake St Clair (c)	28
Lake Pieman (a)	22
Lake Rowallan (a)	9
Lake Rosebery (a)	7
Lake Barrington (a)	7
Lake Cethana (a)	4
Lake Murchison (a)	4
Rivers	Length (kilometres)
Mivers	(Kitometres)
South Esk	201
Gordon	185
Derwent	182
Huon	170 146
Mersey Franklin	118
Arthur Pieman	113
	100
North Esk	82

- (a) Man-made.
- (b) Man-made inundated the smaller natural Lake Pedder.
- (c) Natural lake enlarged by dam(s).

is the South Esk in the North flowing from the north-east to join the North Esk at Launceston to create the Tamar. Other rivers include the Mersey, Forth and Leven flowing to the North Coast and the Pieman and Arthur rivers on the West Coast.



2.2 VEGETATION

(This section is based on an article contributed by Dr Winifred M. Curtis to the 1969 Tasmanian Year Book.)

Tasmania's rugged topography and diversity of soil and climate result in a wide range of habitats for plants. There are some 1200 species of native flowering plants of which about 200 are endemic, i.e. peculiar to the State. This flora, while closely related to that of the Australian mainland, has also a very strong affinity with the floras of other southern lands, namely New Zealand and southern South America.

Except on the mountain summits, the climate of Tasmania is favourable for the development of forest, both temperate rain forest in areas having an annual rainfall of about 1500 mm or more, and sclerophyll (eucalypt) forest in the drier parts. There are, however, considerable areas of sedge-moor and heath associated with particular types of soils; these are sometimes increased by the effects of repeated fires. Conditions for the growth of plants often change

TASMANIA
VEGETATION

Rain forest and mixed forest
Subalpine vegetation
Button-grass plains
Coastal heath vegetation
Cleared land

41° S
148°E

TASMAP

abruptly, particularly in mountainous country dissected by gullies, and juxtaposition of forest, sedge-moor and subalpine communities produces a mosaic-like pattern.

2.2.1 Temperate Rain Forest

Myrtle and Sassafras

In areas of high rainfall and suitable soils, temperate rain forests are found from sea level to an altitude of about 1000 metres, and corridors extend into many of the deep sheltered gullies in eucalypt forests. The characteristic trees, myrtle (Nothofagus cunninghamii) and sassafras (Atherosperma moschatum), cast a deep shade and undergrowth is often reduced to a surface cover of liverworts, mosses and lichens with scattered areas of ferns. Corridor forests at low altitudes develop as fern gullies in which other species of trees appear. Often musk (Olearia argophylla), with sassafras, are the dominant trees forming a canopy above the tree ferns.

'Pines' and Blackwood

While myrtle and sassafras are characteristic and widespread throughout Tasmania's rain forests, other species are locally abundant. King Billy pine (Athrotaxis selaginoides) and pencil pine (A. cupressoides) are trees of 15 to 30 metres in height. They may be associated with myrtle or they may form pure stands on slopes of the central plateau in high-rainfall areas, e.g. at Cradle Valley. Huon pine (Dacrydium franklinii), a fine timber tree characteristic of the banks of rivers near the west coast and of lakes on the central plateau, is no longer plentiful. Blackwood (Acacia melanoxylon) reaches its greatest development in the swampy soils of the north-west.

Celery-top and Leatherwood

Where soils are acid and poor in mineral nutriments and the canopy of the rainforest becomes broken, other trees and also tall shrubs appear. Celery-top (*Phyllocladus aspleniifolius*) is widespread and leatherwood (*Eucryphia lucida*) locally abundant. The latter sometimes grows to a height of 30 metres although more usually 7-12 metres. In late summer, the flowers make a spectacular display; they are white, about 3.5 cm in diameter and resemble wild roses.

'Laurels', Waratahs and Heaths

The tall shrubs of these forests include a number of endemics, many characterised by showy flowers or by bright fleshy fruits. Native laurel

(Anopterus glandulosus) is a handsome shrub bearing large terminal racemes of white flowers. The waratah family (Proteaceae) and heath family (Epacridaceae) are well represented. From the latter family, two endemic species are of particular interest. Pandani or giant grass tree (Richea pandanifolia) has leaves one to two metres long, parallel-veined, hard, rigid and drooping, borne at the summit of a trunk which may be six to nine metres high. Climbing heath (Prionotes cerinthoides) is a climber not infrequent on the trunks of myrtle where it may reach a height of 12 metres above the ground. It forms pendant sprays of small evergreen leaves and crimson bell-like flowers.

Impenetrable Scrub

Locally in poor acid soils where the water table is at or very near the surface an almost impenetrable scrub develops, the density of which is notorious. About five species are mainly concerned. Woolly tea-tree (Leptospermum lanigerum) forms dense stands of trees having slender, very tough trunks up to 15 metres high. The sedges, appropriately called 'cutting grass', grow in clumps which are often more than two metres in height and breadth. Bauera rubioides (family Cunoniaceae) has innumerable thin, wiry, intertangled branches often spreading over other shrubs to a height of 3 metres or more. The most unusual growth form is horizontal scrub. This is a small evergreen tree making a closely packed understorey in the forest or forming pure stands in gullies. The trees sometimes grow erect with trunks up to 13 metres high but, typically, slender saplings arch towards the ground and many erect branches arise from the almost horizontal trunks. The branches in turn bend over, interlacing with each other and with branches from adjoining trees. In this way, dense platforms develop at varying heights above the ground.

2.2.2 Mixed Forest

Where rain forest gives way to sclerophyll forest, there is an ecotone of mixed forest, the extent and character of which are largely determined by the incidence of fires. Eucalypts are able to establish in open ground cleared by fire; at altitudes below about 750 metres swamp or stringy gum (Eucalyptus regnans), stringy bark (E. obliqua) and gum-topped stringy bark (E. delegatensis) tower above an understorey of trees and tall shrubs from the rain forest. In this understorey tree ferns are often abundant, their trunks clothed with epiphytes among which

filmy ferns (Hymenophyllaceae) are prominent and *Tmesipteris* locally frequent. At higher altitudes, eucalypts characteristic of montane and subalpine communities are found in the ecotone and myrtle may be reduced to a bushy scrub below Tasmanian snow-gum (*E. coccifera*), urn gum (*E. urnigera*), yellow gum (*E. subcrenulata*) or cider gum (*E. gunnii*).

2.2.3 Subalpine Vegetation

Subalpine Communities

The subalpine communities of the mountains form a complex pattern determined by the varied habitats. Endemic conifers often form quite extensive forests; here pencil pine is usually dominant. In some of the moister environments, stands of myrtle extend to the tree line. A second species of myrtle (tanglefoot), forms dense thickets on very exposed slopes. Tanglefoot is an endemic species and Tasmania's only native deciduous tree; its leaves brighten the slopes in autumn by changing colour from green to vivid golden-bronze or red before they fall.

Subalpine Moorland

The term subalpine moorland is used to include a number of communities such as shrubberies, the assemblages characteristic of screes and mountain-top detritus, herbfields, swamps and bogs. Some shrubberies comprise conifers reaching a height of two to two and a half metres, others consist of lower-growing plants, including the prostrate conifers Podocarpus alpina and Microcachrys tetragona, and with daisies, waratahs and heaths well represented. The plants of the heath community make a colourful display in summer and early autumn. The flowers of Richea (family Epacridaceae) are of particular interest; they are characterised by the corolla, the petals being joined to form a more or less conical cap which does not open when the stamens are mature but splits transversely near the base and falls in its entirety. Richea scorparia, which is abundant in the shrubberies. has flower buds ranging in colour from white to apricot, brick red, or deep crimson. The genus comprises some ten species of which only one occurs outside Tasmania, on mountains of the south-east of the Australian continent.

Micro-shrubbery

An interesting plant community, which may be termed a micro-shrubbery, develops on mountain-top detritus (worn rock material), on the margins of shallow pools and on gentle slopes

where snow often lies for up to six months of the year. Five species of cushion plant are concerned. These plants are perennial, ever-green and much-branched with the main branches prostrate but sending up short, erect shoots that grow to an even height. The erect shoots are very densely packed; they bear stiff, closely imbricated leaves and adventitious roots. As growth continues, the lower leaves die and the debris, together with roots and with silt washed into the interstices, help to consolidate the mass. A plant spreads to form a mound which may be one and a half metres or more in diameter, the surface flat or rounded and so firm as not to yield underfoot. The species involved are: Abrotanella forsterioides (Compositae family), which is able to grow at lower altitudes and in drier situations than the rest; Pterygopappus lawrencii (Compositae), distinguished by the sage-green colour its leaves; Dracophyllum (Epacridaceae); Donatia novae-zelandiae (Donatiaceae); Phyllachne colensoi (Stylidiaceae). This plant community closely resembles those found in comparable habitats in New Zealand and in the Magellanic moorland of South America. The species of Donatia and of Phyllachne are common to Tasmania and New Zealand.

As the cushion plants spread and adjoin, they form a mosaic which has a continuous level or undulating surface. These plants serve as seed beds for others; the white-flowered Drosera arcturi is often conspicuous and the endemic plantain, Plantago gunnii, is confined to this habitat. But a cushion plant does not continue to expand to an indefinite size; after a time it dies in the centre allowing the establishment of plants such as the fern Gleichenia alpina, Calorophus minor (syn. Hypolaena lateriflora, family Restionaceae), Astelia alpina (pine-apple grass, family Liliaceae) and also various shrubby species. One result of this method of growth is that the flow of water in the area is interrupted and conditions then favour the development of bog or swamp. In water-logged soils, pine-apple grass is locally frequent, often forming extensive mats which are firm underfoot. The leaves of this plant are closely tufted, lanceolate or ensiform and up to 30 cm long; they are very stiff and are held erect showing the lower surface which is silvery white and contrasts with the grey-green upper surface.

2.2.4 Button-Grass Plains

Extensive tracts of country in climatic conditions suitable for the development of temperate

rain forest or mixed forest carry sedge-moors which are given the descriptive name 'Buttongrass plains'. The characteristic plant is buttongrass (Gymnoschoenus sphaerocephalus) which grows in tussocks consisting of hard, narrow leaves, one to two metres long, and of slender spreading flower-stalks terminating in small spherical heads of flowers and fruits. This plant community is typical of wet infertile soils that are acid, podsolized and having a surface accumulation of peat. Reaching their greatest development on flat valley floors in areas of high rainfall, the tussocks extend from sea level and spread over hills until they give way to more drought-resistant or cold-tolerant plants of montane and subalpine regions. However, the boundaries of this community are not strictly limited by the nature of the soil and may be extended as a result of repeated fires. While button-grass is a characteristic and conspicuous plant, other monocotyledons, particularly representatives of the Restionaceae, are abundant and sometimes dominant. The yellow-flowered species of Xyris (family Xyridaceae) and mauve-flowered Patersonia fragilis (family Iridaceae) are widespread and, between the tussocks, small herbaceous plants are locally frequent. Where the soil becomes better drained, woody shrubs appear.

2.2.5. Sclerophyll Forests

Principal Growth

The sclerophyll forests dominated by Eucalyptus extend through a wide range of habitats from the margins of rain forests to exposed mountain plateaux and the relatively dry areas of the midlands. In the dry regions, the forest becomes almost a savannah woodland with scattered trees of cabbage gum (Eucalyptus pauciflora) and a ground cover of grasses or low shrubs. Between the extremes there are considerable areas of rather open forest. Some 26 species of Eucalyptus occur in the State of which about half are endemic. Many of these species are highly variable and the forests show a complex pattern in which variants of one species give way to those of another, in response to slight changes in conditions, e.g. different soiltype or different aspect. Near Hobart a pattern is well shown on the low but much-dissected foothills of Mt Wellington. Here the sunny northfacing slopes carry the glaucous species silver peppermint (E. tasmanica) or Risdon peppermint (E. risdoni) while the south-facing slopes carry the non-glaucous species such as stringy bark (E. obliqua) and white gum (E. viminalis). In the open forests, subdominant trees include

species of she-oaks, *Casuarina*, which often forms societies on dry slopes, the semi-parasitic native cherry (*Exocarpos cupressiformis*) and wattles such as black wattle (*Acacia mearnsii*). *Banksia marginata* and silver wattle (*Acacia dealbata*) are widespread. Many low-growing shrubs contribute to a colourful show of flowers in spring, representatives of the pea family, heaths, daisies and boronias being the most conspicuous.

Blue Gum

Blue gum (Eucalyptus globulus) which has been chosen as Tasmania's floral emblem is, of all Australian eucalypts, the species that has been most widely introduced overseas. The tree has been established throughout the Mediterranean region and in highlands of the tropics in many parts of Africa and India; it is widespread in California and in parts of Chile, Argentina and New Zealand. In many of these regions, the tree has become of considerable economic importance as timber, as a material for paper pulp production, and for fuel and oil. Blue gum is locally abundant in southern and eastern Tasmania: in well-drained soils and in sheltered valleys, it reaches a height of about 60 metres. The tree also occurs in restricted areas near the west and south coast, but, apart from local occurrences in southern Victoria, is native to Tasmania.

2.2.6 Coastal Heath Vegetation

On coasts, mainly in the north-west and north-east of the State, areas of infertile soils support only a heath vegetation of stunted trees and low shrubs. This community, like the sedgemoor, may extend beyond the infertile soils as a consequence of recurrent fires. Two species of grass tree (Xanthorrhoea australis and X. minor) are locally frequent. These are bizarre plants producing a large number of rigid, persistent, narrow-linear leaves, often half to one and a half metres long and tufted at the top of a stout stem. In X. australis the stem may form a trunk up to half a metre high. The flowering stems are erect, typically solitary, and, again in the larger species X. australis, from one to two metres high, having the upper half very densely crowded with small bracteate sessile flowers that form a narrow-cylindrical spike. The flowers are white but after they have withered, the dark brown fruiting spikes are long-persistent. The genus is confined to Australia and has been classified in several ways.

2.3 FOREST MANAGEMENT

Of the total forest area of 3 649 000 hectares, 38 per cent is in State Forest, 36 per cent is privately owned, 14 per cent is Crown Land and 11 per cent is in Crown reserves.

The need for permanent reservation of land for timber production was first given statutory recognition with the *Waste Lands Act* 1881. A program of acquisition of land suitable for dedication as State forest has seen the gazetted area reach 1 621 007 hectares at 31 May 1989.

State forests: Tenure by the Forestry Commission under the *Forestry Act*, 1920.

Forest reserves: Areas provided for recreational, scientific, environmental and aesthetic purposes established within State forests.

Crown land: Unallocated land with tenure by the Department of Lands, Parks and Heritage; wood production and sale controlled by the Forestry Commission.

Crown reserves: Principally National Parks and State Reserves administered under the *National Parks and Wildlife Act* 1970.

HEC: Land vested in the Hydro-Electric Commission.

2.3 TENURE OF FOREST AREA, TASMANIA, 1989 ('000 ha)

Tenure	High quality eucalypt	Low quality eucalypt	Rain forest	Plant- ations
State forest	377.7	845.1	174.8	42.7
Forest reserves	1.2	9.7	4.2	- NO -
Crown land	23.7	202.5	269.8	
Crown reserves	15.3	231.5	169.4	-
HEC	5.9	27.0	5.8	20 July 2
Private property	56.0	1 216.7	37.0	51.7
Total	479.8	2 532.5	661.0	94.4

Timbers

Hardwoods: The most valuable eucalypts are those which belong to the 'ash' group; stringy-bark (Eucalyptus obliqua), gum top stringybark or alpine ash (Eucalyptus delegatensis) and

swamp gum or mountain ash (Eucalyptus regnans). In the south and south-east Tasmanian blue gum (Eucalyptus globulus) occurs in high quality forests. In areas where the annual rainfall is below 760 mm the more important eucalypts are black peppermint (Eucalyptus amygdalina), swamp or black gum (Eucalyptus ovata), white gum (Eucalyptus viminalis), stringybark (Eucalyptus obliqua) and white peppermint (Eucalyptus linearis).

Softwoods: Although Tasmania's native forests produce some very valuable softwood timber, including King Billy pine, Huon pine and celery top pine, they are very slow growing and in short supply. For these and other reasons, attention has been given to building up another section of the total forest estate by growing plantations of exotic species.

Plantations

Fast-grown softwood plantations have been established in State forest initially to fill an expected sawlog scarcity. In addition, these softwood plantations yield a long-fibred pulp which is a requirement of paper production. Softwood plantations cover less than 2.4 per cent of State forest area and radiata pine (*Pinus radiata*) is the principal species planted. An increasing area of native hardwood plantations has been established in recent years.

In 1989 Tasmanian State forest plantations comprised 39 329 hectares of softwoods and 4263 hectares of hardwoods. Most softwood plantations are in the Fingal, Scottsdale, Devonport and Burnie districts, while hardwoods are distributed more widely.

THE FOREST ESTATE, 1988-89

Eucalypts more than 40 metres tall Eucalypts between 15 and 40	359 200 ha
metres tall	832 400 ha
Rainforest	178 400 ha
Plantations:	
softwood	39 329 ha
hardwood	4 263 ha
Native Forests:	
area harvested	8 892 ha
regenerated	6 004 ha
Area held for regeneration in 1989-90	*2 888 ha

(* due to adverse weather conditions)

2.4 NATIONAL PARKS

(The following is based on an article in Travelways.)

Tasmania has more of its area than any other Australian State vested in national parks - more than 9000 of its total 68 000 square kilometres, are included in 14 national parks. More than any other part of Australia, it offers a wealth and variety of natural beauty.

Three of the national parks, Southwest, Franklin-Gordon Wild Rivers National Park and Cradle Mountain-Lake St Clair, plus new additional areas comprise the State's World Heritage Area.

Asbestos Range National Park on the north coast includes beaches, coastal hills, a small lagoon, small offshore islands and heathland. It offers many outdoor activities, including camping, swimming, boating, water skiing, fishing, bird watching and walking.

The 16 080 hectare Douglas-Apsley National Park, declared in December 1989, is Tasmania's best example of a dry sclerophyll forest. It also includes waterfalls and river and forest views. The park is near the resort of Bicheno and a one-way gravel road is open on weekends.

Freycinet National Park, on the Tasmanian East Coast, is a striking combination of red granite mountains, white sand and crystal clear water. The beaches, boating, fishing, swimming and bushwalking attract many visitors to the area, particularly at the height of summer. The park has a series of well defined walks, most of them within the capability of the average visitor.

Maria Island, 13 km off south-eastern Tasmania, was a penal colony early last century and relics from this period remain at Darlington the island's only settlement. Transport is provided by a ferry operating from the Eastcoaster Resort.

Mount William, in the extreme north-east of Tasmania, was declared a national park principally to protect the habitat of Tasmania's only endemic kangaroo, the gray forester, which can be viewed from a 'kangaroo drive'.

Rocky Cape National Park, the smallest of the Tasmanian national parks, stretches for about 12 kilometres along the Bass Strait shoreline. It incorporates rugged coastline, small sheltered beaches, heathlands and wooded hills.

Strzelecki National Park, in the south-western corner of Flinders Island, is dominated by the granite Strzelecki peaks, rising abruptly from the sea and providing excellent climbing views.

The Ben Lomond National Park, one of Tasmania's two principal ski-fields, is a large alpine plateau 50 kilometres south-east of Launceston, with the highest peak, Legges Tor, rising to 1573 metres.

Cradle Mountain-Lake St Clair National Park in the western Central Highlands, is Tasmania's, and one of Australia's, best known national parks, earning international renown for the beauty of its mountains and lakes and for the famed 85 kilometres 'Overland Track' from Cradle Valley to Lake St Clair. The park contains numerous highland tarns and lakes, streams and waterfalls and mountain peaks, including Tasmania's highest mountain, Mount Ossa (1617 metres). The overland walk is normally made in four, five or more daily stages, sheltering overnight in tents or at one of the 12 basic, unattended huts along the way.

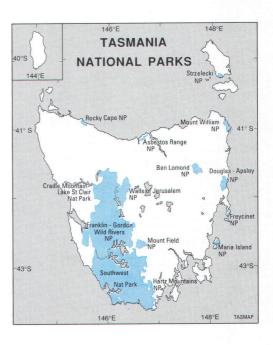
Hartz Mountains National Park, being 80 kilometres south of Hobart, is one of Tasmania's most popular national parks. The park is dominated by 1255 metre Hartz Peak, with a superb panoramic view out over the South-West wilderness and eastward to Bruny Island and the Tasman Peninsular. The park appeals to bushwalkers, with several well-defined trails. It is now included in the World Heritage Area.

Mount Field National Park, 70 kilometres west of Hobart, could be described as two parks within one - at the lower level is an almost English-style parkland area, merging into thick rainforest, with short nature walks, one for disabled people leading to the well-known Russell Falls. Contrasting with this is the steep drive up to the rugged and mountainous plateau, peaking in Mount Field West (1437 metres).

The Walls of Jerusalem National Park abuts the Cradle Mountain-Lake St Clair National Park and has recently been included in the World Heritage Area. It covers a plateau area, averaging 1200 metres, with mountain peaks, gorges, and a significant proportion of the 4000 lakes and tarns in the Central Highlands.

The Franklin-Gordon Wild Rivers National Park includes the Franklin River, the broad lower reaches of the Gordon River and Frenchman's Cap - a striking white quartzite peak, with a sheer cliff face of 300 metres. The Franklin has a reputation for providing some of the world's best white water rafting and in contrast, the broad, dark reaches of the lower Gordon, with their mirror reflections, may be seen from the comfort of cruise boats. The thick, temperate rainforest contains some of Tasmania's unique timber species including the renowned Huon pine.

The Southwest National Park is Tasmania's largest national park. It encompasses much of Tasmania's temperate wilderness, one of few such areas in the world, an area of rugged mountains, dense rain forest, button grass plains, swift flowing rivers and isolated coastline. High peaks predominate, including Mount Anne (1425 metres), Mt Eliza (1289 metres), Federation Peak (1224 metres) and Precipitous Bluff (1120 metres). It is a mecca for experienced bushwalkers and climbers from around the world. The two principal walking tracks are the South Coast track and the Port Davey track, meeting at Port Davey to provide a semi circular walk from Cockle Creek in the far south to Scotts Peak (Lake Pedder).



2.4.1 World Heritage Nomination

(The following section was prepared by the Department of Parks, Wildlife and Heritage.)

The Tasmanian Wilderness World Heritage Area comprises 1.37 million hectares of essentially wild, natural country in central and southwestern Tasmania. It was jointly nominated for World Heritage listing by the Commonwealth and State governments in September 1989 and inscribed on the World Heritage list by the World Heritage Committee of UNESCO in December 1989.

Part of the World Heritage Area (the Cradle Mountain-Lake St Clair, Southwest and Franklin-Gordon Wild Rivers National Parks) was originally recognised by the World Heritage Committee in 1982. The 1989 listing enlarged the original area by approximately 600 000 hectares. It also includes the Lemonthyme area; the Walls of Jerusalem National Park and Central Plateau Conservation Area; the majority of the Central Plateau Protected Area west and north of Great Lake; Marakoopa Cave, Devils Gullet and Exit Cave state reserves; the three forest reserves of Meander, Liffey and Drys Bluff; the area north of Lake Gordon including the Denison and King William Ranges; the western strip of the southern forests stretching from Wayatinah to South Cape Bay including the upper reaches of the Weld, Huon and Picton Rivers: Hartz Mountains National Park; and in the west: the Broken Hills, south-east Macquarie Harbour, Sarah Island Historic Site, Birchs Inlet to Spero River, Governor River, Eldon Ranges and north to Sophia River.

The World Heritage Area now contains values not protected within the original area; notably areas of very tall eucalypt forest, extensive cave systems, a core breeding area for the endangered orange-bellied parrot and ice age Aboriginal cave art sites. The integrity of the original nomination has been greatly enhanced by the inclusion of important alpine and sub-alpine areas, karst and glacial features. These and other values were identified by the numerous reports to the Commission of Inquiry into the Lemonthyme and Southern Forests, established by the Commonwealth Government in 1988 to investigate and report on the World Heritage qualities of this area.

The Tasmanian Wilderness World Heritage Area is subject to a joint Commonwealth/State management arrangement. This consists of the Ministerial Council, chaired by the Premier which approves expenditure and management plans and is supported by a Standing Committee of officials from both governments. The Council also receives advice from a Consultative Committee which has an independent chairperson and comprises 15 members nominated by both governments as representatives of different interests. A joint rolling program of recurrent and capital funding for World Heritage Area management has been agreed with Commonwealth funds guaranteed until 1994.

Day-to-day management of the World Heritage Area is carried out by the Tasmanian Department of Parks, Wildlife and Heritage. Field bases are located at Cradle Mountain, Lake St Clair, Strahan, Queenstown, Mt Field, Liawenee, Marakoopa and Hastings caves.

Preparation of a management plan for the entire World Heritage Area commenced in December 1989 with the launch of the most extensive program of public participation ever undertaken for reserve planning in Tasmania. Selected research programs are carried out to gain information for planning and management.

World Heritage Area management activities include providing visitors with information, interpretation and assistance, search and rescue, fire prevention and suppression, providing and maintaining a range of visitor facilities, walking track upgrading and maintenance, rehabilitation, environmental monitoring and exotic species control.

2.5 CLIMATE

(The following section was prepared by the Bureau of Meteorology.)

Since Tasmania lies between 40° and $431/2^\circ$ south of the Equator and is an island with no point more than 115 kilometres from the sea, its climate is classified as temperate maritime. On the coast the daily temperature range averages about 8° Celsius, rising to about 12° Celsius further inland, indicating a slight continental effect.

The combination of mountainous terrain in the western half of the State and prevailing westerly winds produces a marked west-east variation of climate, and especially of rainfall. CLIMATE 29

Summers are mild and characterised by greatly lengthened days. The sun reaches a maximum elevation of 70-73° in mid-summer, giving around 15 hours of daylight. In mid-winter, the sun's elevation does not exceed 20-23°, and the shortest day consists of about nine hours of daylight.

In winter, westerly winds reach their greatest strength and persistence, causing a distinct maximum in rainfall distribution in the west and north-west. In the east and south-east, rainfall is more evenly distributed throughout the year. In comparison with those areas of Europe and North America which are at similar latitudes, Tasmania enjoys a very temperate climate. This is due to the stabilizing effect of surrounding oceans whose temperatures change only 3-5° throughout the year. The higher proportion of ocean to land area confers a similar benefit on the Southern Hemisphere as a whole.

2.5.1 Winds

The prevailing winds over most of the Island are north-west to south-west, with greatest strength and persistence during late winter. Speed and direction vary with the eastward passage of high and low pressure systems. In the summer months, when westerlies are weak, afternoon sea-breezes become the predominant wind in coastal areas. Occasional periods of north-east to south-east winds occur. The highest average wind speeds are associated with extensive deep depressions over ocean areas south of Tasmania.

2.5.2 Temperature

Tasmania only occasionally experiences extremes of temperature. High temperatures recorded in the east and south-east of Tasmania

generally occur on the last day of a warm spell during which a dry air mass of mainland origin is advected over the State from a direction between north and north-west. Some cooling in the lower air layers over the waters of Bass Strait prevents the northern coast from reaching the higher temperatures that are experienced in the south under these conditions.

Launceston's Record Low

On 16 June 1989 Launceston had its lowest maximum June temperature on record, just 5°C as Tasmania froze in unusually low temperatures. Lauceston's previous record June low was 6.3°C.

Hobart's maximum, also 5°C was just outside the record for its lowest maximum of 4.3°C. Both centres' maximums were 7°C below average for June. The lowest maximum temperature in Tasmania for the day was 1°C recorded both at Liapootah and Tarraleah. Liawenee recorded the lowest minimum temperature with -7°C. Despite the cold, no highland areas reported snowfalls.

The highest temperature ever recorded in Tasmania was 40.8°C at Bushy Park in December 1945 and at Hobart in January 1976. The lowest temperature recorded was -13.0°C at Shannon, Butlers Gorge and Tarraleah in June 1983.

The recorded extremes of temperature for Hobart are 40.8°C in January 1976 and -2.8°C in June 1972 and July 1981. Readings above 38°C or below -1°C are rare, the mean maximum temperature in summer being 21°C and the mean minimum in winter, 4.8°C.

2.4 TEMPERATURES AT SELECTED STATIONS, TASMANIA, 1989 (°C)

Station	Summer (Dec-Feb)		Autumn (Mar-May)		Winter (June-Aug)		Spring (Sep-Nov)	
	Mean max.	Mean min.	Mean max.	Mean min.	Mean max.	Mean min.	Mean max.	Mean min.
Hobart	22.5	12.9	18.2	10.3	12.1	4.2	18.3	8.5
Launceston Airport	23.4	10.7	18.3	8.1	11.2	2.2	17.1	6.2
Devonport	21.4	12.3	18.6	9.8	12.8	3.5	16.7	7.7
St Helens	23.6	12.5	20.1	9.6	14.4	3.5	18.6	7.5
Oueenstown	21.5	9.2	18.1	6.6	12.2	1.2	16.6	5.4

The average number of hours of sunshine a year ranges from about 2500 hours in the northern Midlands to less than 1750 hours on the West Coast and western highlands, this area having the least sunshine in Australia. Hobart averages 2100 hours per year and Launceston around 2400.

In January, daily averages of sunshine range from nine hours per day between the Midlands and Launceston to six hours per day on the West and South Coasts. In mid-winter, average daily sunshine is down to a maximum of three hours on the East Coast and to considerably less on the West Coast and highlands.

2.5.3 Rainfall

As Tasmania's position is on the northern edge of the 'Roaring Forties' (a westerly airstream), its exposure to this stream and the mountainous nature of the terrain are the controlling influences on the amount, distribution and reliability of the State's rainfall.

In the west, average annual rainfall ranges from about 1500 mm on the coast to 3500 mm at Lake Margaret; in the north-east, from 500 mm on the coast to 1300 mm on the highlands; while rainfall in the north-west ranges from 1000 mm near the coast to 1600 mm in the higher inland areas.

TASMANIA
MEAN ANNUAL
RAINFALL
Isohyets in millimetres

41° S

43°S

146°E

TASMANIA

MEAN ANNUAL

RAINFALL

Isohyets in millimetres

41° S

41° S

43°S

43°S

146°E

148°E

TASMAP

Extreme three to five-day rainfalls occur most often on the West Coast in late June when the westerlies are increasing in strength and persistence and the sea temperature is well above the land temperature. In the north, short periods of extreme precipitation occur when wind flow is sustained for up to two days from the north-east, usually from late autumn to spring. The high moisture content of such streams from over the relatively warm waters of the Tasman Sea results in heavier, if less prolonged, rainfall than is produced by the westerly streams.

There is a strong gradation in rainfall from west to east, because of topography, with a distinct rain shadow east of the Central Plateau. Parts of the Midlands average less than 500 mm per year. Totals in the east and south-east are higher (over 800 mm on exposed slopes).

Rainfall is least reliable in the east, south-east, Midlands and Derwent Valley. Highest rainfall in these areas tends to occur in autumn and spring, under the influence of small cyclonic depressions off the East Coast.

2.5 ANNUAL RAINFALL, TASMANIA (mm)

Station	1987	1988	1989	Long-term average (a)
Bicheno	504	794	723	689
Burnie	673	1 043	1 215	994
Bushy Park	582	550	439	584
Butlers Gorge	1 598	1 697	1 117	1 686
Campbell Town	391	535	480	544
Devonport	738	1 105	1 033	892
Glenorchy	638	747	574	719
Hobart Airport	411	492	469	525
Hobart Bureau	492	642	492	628
Launceston Airport	480	588	615	695
Launceston	557	724	742	676
Maydena	1 134	1 168	778	1 218
Oatlands	403	461	492	562
Queenstown	2 653	2 383	2 012	2 527
Scottsdale	718	1 013	1 186	1 069
Southport	832	887	782	988
Smithton	910	1 254	1 1111	1 103
Strahan	1 621	1 627	1 542	1 653
Strathgordon	2 665	2 572	1717	2 525
St Helens	542	820	865	783
Swansea	372	560	564	612
Waddamana	775	876	603	797

(a) Number of years of record used to calculate the long-term average varies from station to station.

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2.5.4 Snow, Hail and Thunderstorms

Snow and hail can be experienced over the highlands at any time of the year. Heaviest snowfalls occur, as a rule, in late winter and spring, and less frequently in June and July. Extensive snow below 150 metres occurs, on the average, less than once every two years, associated with an unusually vigorous outbreak of cold air from Antarctic regions. There is no permanent showline, but patches of snow often remain on the highest peaks until December.

Hail is most likely in spring, though possible in any month. Hail storms are a big risk to fruit crops in the Huon Valley and on the Tasman Peninsula, and sometimes cause extensive damage.

Thunderstorms are most common in the west and about the North Coast and are usually associated with the lifting of warm moist air by a cold front. Thunderstorms occur mainly in the summer months. Hobart and Launceston average five to seven storms per year, and the north and north-west, 10 to 15. The Central Plateau and north-eastern highlands report, on average, about five storms per year, while the Midlands, as gauged by Oatlands, has less than three.

2.5.5 Floods

In Tasmania, floods tend to be seasonal being more frequent in winter, when catchments are saturated, than in summer.

The major rivers in the Tamar River basin, the South Esk, Macquarie, Meander and North Esk Rivers, converge in the north of the State near Launceston, where the combined catchment area is nearly 9000 square kilometres. Many rivers in this system flow through flat country

and, consequently, floods can be widespread and disruptive. Besides many small rural townships, Launceston and Longford, the two major urban areas in the basin are affected by major floods such as those which occurred in 1929 and 1969.

The Derwent River, with a catchment area of 7750 square kilometres at New Norfolk, drains the central part of the State. Minor floods do not occur with the same regularity as in the South Esk due to the Hydro-Electric Commission's storages but these have little effect during major floods such as that which occurred in 1960 when New Norfolk was flooded.

The Huon River, which has catchment area of 2100 square kilometres at Judbury, rises very quickly during floods. Major floods, the most recent of which was in 1975, affect the main township in the catchment, Huonville.

Although heavily regulated by Hydro-Electric Commission power generation schemes, the Forth and Mersey rivers, with catchment areas of 1100 and 1600 square kilometres respectively, sometimes have major floods. The most recent major flood in 1970 affected urban areas in the catchments.

Many of the smaller rivers in the north and North-west of the State have their headwaters in the Western Tiers and are subject to flash flooding.

The short, fast-flowing rivers in the Northeast and east of the State rise and fall rapidly but can be quite damaging.

Flooding of rivers in the west and south of the State go largely unnoticed as they pass through rugged, sparsely populated regions.

	2.6	CAPITAL C	ITIES CI	IMATICI	DATA			europe ja
	Hobart	Melbourne	Sydney	Brisbane	Darwin	Adelaide	Canberra	Perth
Temperature (°C) -								
Mean daily maximum	16.8	19.7	21.5	25.5	31.6	22.1	19.4	23.6
Mean daily minimum	8.3	10.0	13.6	15.7	23.8	12.0	6.3	13.5
Extreme maximum	40.8	45.6	45.3	43.2	40.5	47.6	42.2	44.7
Extreme minimum	-2.8	-2.8	2.1	2.3	10.4	0.0	-10.0	1.2
Mean daily hours of								
sunshine	5.8	5.7	6.7	7.5	8.5	6.9	7.2	7.9
Rainfall -								
Mean annual (mm)	628	656	1 212	1 149	1 814	552	625	869
Mean annual days of rain	160	147	139	123	111	121	107	119
Wind - Average (km/hr)	11.7	12.3	11.6	10.8	9.2	12.5	5.8	15.6

2.5.6 Hobart's Climate

Hobart is not the wettest Australian capital city; in fact it has the lowest mean annual rainfall of all capitals except Adelaide.

Temperatures: Mean maximum temperature exceeds 21°C in January and February. On average there are two or three days per year with maximum temperatures greater than 32°C. Minimum temperatures below -1°C are rare.

Rainfall: There is a strong gradient of rainfall to the immediate west of Hobart caused by the bulk of Mt Wellington. On the south-eastern slopes of the mountain the annual rainfall reaches 1400 mm (at The Springs and The Gap) while at Fern Tree the annual average is 1140 mm. The rainfall decreases to about 600 mm in the city area, the annual average being 628 mm at the Regional Office of the Bureau of Meteorology. Some eastern shore suburbs receive as little as 500 mm of rain per annum.

Monthly totals are fairly uniform. The wettest 12 months on record at the Bureau's Hobart Office yielded 1104 mm (to December 1916) and the driest, 320 mm (to November 1943).

Fog: Fogs occur in the city about six times per year, in the cooler months, but are more frequent over and near the Derwent River, down which they are often carried on a light northwest wind. Fog frequency is far less than that for either Launceston or Melbourne.

Wind: The main wind direction is north-west, induced by the orientation of the Derwent Valley. Next in importance is the sea-breeze (from south or south-east) during summer months. The strongest wind gust experienced in Hobart was 150 km/hr recorded during a storm in September 1965.

Snow and Hail: Snow below 300 metres occurs, on the average, less than once per year. Falls lying in the centre of the city, almost at sea level, have occasionally been recorded. Snow generally lies on Mt Wellington during winter and early spring months, but it is rare between November and March. Hail occurs about four times a year mainly between September and November.

Frost: The average annual frequency of days of frost is 28, mostly from June to August. Cold air drainage is found in the hilly suburbs and frosts are common on the valley floors.

Sunshine and Cloud: No marked seasonal or diurnal variation of cloud amount occurs. However, there is a clear-cut seasonal variation in monthly average hours of sunshine with variations of 235 hours in January to 112 hours in June.

				Tempero $({}^{\circ}C)$						shine hours)		infall nm)
Month Long term (a)	Maxima					Minima						
		Mean 1989	Extreme (a)	Extreme 1989	Long- term (a)	Mean 1989	Extreme (a)	Extreme 1989	Long- term average (a)	Mean 1989	Long- term average (a)	Total
January	21.5	22.9	40.8	36.3	11.7	13.3	4.5	8.2	7.9	8.8	48	61
February	21.6	23.3	40.2	35.7	11.9	13.3	3.4	8.8	7.2	7.9	40	16
March	20.0	21.0	37.3	32.4	10.7	12.6	1.8	6.5	6.3	5.9	47	44
April	17.2	18.9	30.6	28.3	8.9	11.3	0.6	6.4	5.1	5.7	53	34
May	14.3	14.8	25.5	19.6	6.8	7.0	-1.6	1.3	4.2	4.5	50	21
June	11.8	11.1	20.6	15.5	5.1	3.3	-2.8	-0.3	3.9	3.8	56	47
July	11.5	11.8	21.0	17.6	4.4	4.5	-2.8	0.3	4.4	4.7	54	52
August	12.9	13.5	24.5	18.4	5.2	4.9	-1.8	1.2	5.0	5.4	52	34
September	15.0	16.1	31.0	24.5	6.3	7.0	-0.6	2.9	5.9	6.3	52	24
October	16.9	16.9	34.6	23.3	7.7	8.3	0.0	5.6	6.4	6.3	63	107
November	18.5	19.4	36.8	33.3	9.1	10.2	1.6	5.0	6.9	7.8	56	17
December	20.2	21.3	40.7	31.5	10.7	12.0	3.3	6.6	7.3	9.3	57	31
Annual	16.8	17.6	40.8	36.3	8.2	9.0	-2.8	-0.3	5.9	6.3	628	492

(a) Figures taken over all periods of records.

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2.5.7 Monthly Weather Review, 1989

January

Above average rainfall was recorded in all districts except the East Coast and Bass Strait islands. Thunderstorm activity on the 9th disrupted power supplies in Northern districts, and produced minor flooding in the Hobart metropolitan area.

February

Most rainfall totals for February were only about 50 per cent of average with the Midlands and Flinders Island districts recording only 30 per cent of their averages.

March

Below normal rainfall continued during March, however most temperatures were above average.

April

The month of April was characterised by record high average temperatures throughout the State and above average rainfall in the Northern, Flinders Island, East Coast and Midlands districts. The average daily minimum temperature for Hobart (11.3°C) was the highest in 106 years of recordings. Several stations in the Northern parts of the State recorded record high April rainfall totals. Beaconsfield had its wettest April (261 mm) in 81 years of recordings.

May

Temperatures were near normal during May while rainfall was below average in the Central Plateau, Derwent Valley, Southeast and East Coast districts. Above average rainfall was recorded in the North-east.

June

Although daily maximum temperatures were generally close to average, minima tended to be between 1.0 and 3.0 degrees Celsius below the June average. Apart from the Bass Strait islands below average rainfall was recorded throughout, with the Midlands and Northern districts receiving only 5 per cent and 27 per cent of their averages, respectively.

July

Near average temperatures were recorded in most parts during the month, however the relative lack of westerly systems resulted in below average rainfall being recorded over the Western and Central districts. Several depressions to the north of Tasmania brought average rainfall totals to the Northern, Eastern and South-eastern districts.

August

Rainfall during August was below average in all districts except Flinders Island. Strathgordon recorded its lowest August rainfall total (121 millimetres) in 20 years of records. Although daytime temperatures were close to average, minimum temperatures were generally below average, especially in the North-west, West Coast and Central Plateau areas. A number of stations in these regions established new low mean monthly minimum temperature records.

September

Essentially the Northern half of Tasmania recorded near average September rainfall totals while the Southern half recorded rain deficiencies. Day-time temperatures were slightly above average while night-time minima were closer to the monthly mean values.

October

October was a wet month throughout with all districts receiving above to well above average rainfall. Mean temperatures during the month were close to average.

November

The dominance of high pressure systems during the month resulted in below to well below average rainfall. Minimum temperatures were close to average while day-time maxima tended to be slightly above average. A number of stations in the Midlands, Central Plateau and South-east districts recorded record low November rainfall totals.

December

December rainfall was near average over most of the East Coast and the Northern half, while it was below average in the remainder of the State. Mean monthly temperatures ranged from near average to between one and two degrees Celsius above the mean values.

2.6 ENVIRONMENTAL MANAGEMENT

(The following is based on information supplied by the Tasmanian Department of the Environment.)

Tasmania's 'natural environment' extends above, below and beyond the State's landmass boundaries to the ozone layer 25 kilometres above; below, to the bottom of the deepest water tables; as far as noise carries as well as beyond the low-water mark as far as the coast of Victoria and the continental shelf. It also includes every plant and animal as well as the State's non-living resources. The State's works, its buildings and other structures, form its 'touched environment' and the way of life of its society forms its 'cultural environment'.

Changes, which started with the coming of the Aboriginals and accelerated rapidly with European settlement, namely, large scale clearing of land for agriculture, extensive grazing, forestry, mining and settlements have extended human impact to almost every part of the State. Indeed our activities can have environmental impacts far beyond our borders. Once pollutants are discharged, they are not restricted by political boundaries.

The quality of the Tasmanian environment has profound effects upon the good health and well-being of all Tasmanians. Two substantial sectors of the Tasmanian economy, agriculture and tourism, rely on a high quality of natural environment. The future of Tasmania's society and its economy will be increasingly dependent upon the quality of its natural environment.

An important factor in determining the effect of our activities on the environment is the specific nature of the receiving environment. Tasmania is a mountainous island and is dominated by westerly winds. Despite these prevalent winds, inversion layers frequently form in the valley regions of the State, including the Derwent and Tamar valleys and influence dispersion of air pollutants.

In the mining areas of the west, average annual rainfall of 200 - 260 centimetres is common and mining districts in the North-east of the State also experience high rainfall. This has a signifi-

cant influence on water pollution problems arising from the mining operations in those areas.

Marine currents and sedimentary drift around the Tasmanian coast are strongly influenced by the big swell which almost continuously approaches the island from the south-west. Diffraction of this swell in Bass Strait, combined with the effect of prevalent north-westerly winds, produces a distinct on-shore movement along the north coast with consequent impairment of dispersion of any effluents discharged into this coastal region.

The State's population is becoming increasingly urbanised and this combined with rising per capita consumption and industry will inevitably raise living standards and this process will require greater control of community and industrial waste disposal.

Day of the Derwent

For the past 180 years, the Derwent River has been a dumping ground for Hobart's sewage, industrial waste and household effluent. A group of concerned residents calling themselves 'Friends of the Derwent' recognised that pollution was building up to the point where it posed a serious environmental, social, economic and ecological problem. A community based clean-up of the river was organised for 1 April 1989. About 10 000 people assisted with the clean-up campaign removing about 25 semi-trailer loads of garbage from the shores of the Derwent.



Derwent River clean-up.

Photo: Mercury

2.6.1 Pollution Control

Recent Legislation

The Environment Protection (Sea Dumping) Act, 1987 gives effect to the provisions of the London Dumping Convention in relation to the waters of Tasmania by regulating, among other matters, the dumping into the sea, and the incineration at sea, of wastes as well as the dumping into the sea of certain other objects capable and likely to cause pollution. It makes provision for the granting of permits for the disposal of wastes at sea provided environmental requirements are satisfied.

The Pollution of Waters by Oil and Noxious Substances Act, 1987 will give effect to the International Convention for the Prevention of Pollution from Ships, 1973-78 by providing for strict controls on the discharge from ships of oil and noxious substances carried in bulk. Where an oil spill occurs and a response plan is devised, the Minister for the Environment is able to make certain declarations which permit the State to incur clean-up costs. These costs would subsequently be recovered from the polluter or, if this is not possible, through the National Plan for combat of oil spills.

The Chlorofluorocarbons and Other Ozone Depleting Substances Control Act, 1988 imposes strict controls on the use of the eight controlled substances identified in the Montreal Protocol on Substances that Deplete the Ozone Layer, namely CFC11, CFC12, CFC113, CFC114, CFC115, Halon 1211, Halon 1301 and Halon 2402. It was the first Act of its kind in Australia and one of the first in the world.

Ozone Monitoring

Bureau of Meteorology scientists presented several papers to an international conference on the ozone layer and health in Hobart in May 1989. The Bureau operates the national ozone monitoring network and recent data indicate a small decrease in stratospheric ozone over Australia during the past 10 years. The Bureau continues to play a key role in international monitoring arrangements and provides the basis for advice to government and general information to community interests.

In January 1989, the Assessment Report on the Export Pulp Mill Project, Wesley Vale, -

Environmental Impact Statement on the Wesley Vale Kraft Mill proposal was released. The guidelines for the control of the mill were as strict as any intended for similar operations in the world.

The report on the Derwent River sludge problem was completed. It mapped an estimated four million tonnes of sludge between Bridgewater and the Bowen Bridge and examined the options for dealing with the sludge.

APPM Wesley Vale was successfully prosecuted for breaches of the Environment Protection Act. The company pleaded guilty and was fined \$6200 with \$250 court costs, the highest ever fine for a single pollution incident in the State.

The Exeter tip site was closed following the detection of elevated levels of organochlorine and organophosphate compounds in sediments in and around the site and neighbouring farmland.

Five study plans for a Coastal and Estuarine baseline Monitoring Program, which aims to detail the current status and potential pollution problems in each study area, were released.

Pollution Incidents

During 1988-89, 881 telephone inquiries were received by the Department of the Environment, as well as a number of written complaints. Of these, 41 per cent were complaints investigated by the department and a further 19 per cent were complaints referred to municipalities and other agencies.

Of complaints investigated by the department, 39 per cent concerned 'heavy industry'. The highest number of complaints was 66 for the silicon smelter at Electrona and these concerned either direct venting and fume emissions from the roof of the plant and baghouse or the noise generated from the operation. The 28 complaints received about Pasminco-EZ Risdon mostly concerned noise emitted from the plant at night, although there were some complaints about smoke emissions from the stacks and accompanying sulphur odours.

Complaints were also received concerning 'primary industry' (industries such as food processors, fish farms, poultry, mills and abattoirs), and 'light industry' (industries such as laundrettes, mixed businesses and small factories). Complaints about local councils were generally related to discharges or odours from sewage treatment plants or waste disposal sites.

Complaints about vehicles, which refer to all cars and trucks, generally concerned exhaust system noise and air pollution in about equal numbers.

2.8 COMPLAINTS INVESTIGATED BY THE DEPARTMENT OF THE ENVIRONMENT, TASMANIA, 1988-89

Category	Number	%
Heavy industry	140	39
Primary industry	61	17
Local councils	40	11
Light industry	40	11
Vehicles	30	8
Individuals (neighbours)	10	3
Others	40	11
Total	361	100

2.6.2 Environmental Planning

Environmental planning is the process of improving the maintaining or ambient environmental qualities required to ensure the long term suitability of an environment for the uses intended by the local community. The Department of the Environment has been developing an approach to objectively incorporate environmental assessment routinely into the planning process to increase the consistency of land-use planning and development control decisions and the subsequent management of emissions from premises. It advises planners of the potential environmental implications of planning decisions and appropriate methods to ensure that new developments do not cause pollution.

The Handbook for Environmental Quality Assurance is intended to overcome the problem inherent in single-point emission standards by using the principle of maintaining the quality of the ambient environment. It will assist industry to select appropriate sites, designs and environmental management techniques for their operations, so that they do not adversely affect surrounding land and water uses; detail criteria for water, air, noise and land capability classification, and environmental quality gradings; give advice on ambient monitoring, appropriate action on non-compliance with environmental quality criteria, sampling, analysis and pollution impact assessment.

Performance Improvement Program

All major industrial premises which do not currently comply with the provisions of the Environment Protection Act, that is, they have ministerial exemptions, are required to develop detailed work programs aimed at eliminating the need for these exemptions within specific time frames.

Individual Premises Review

Major industrial and municipal operations are required to prepare an Environment Management Plan containing detailed information on process descriptions, plant emissions, pollution controls and self monitoring programs for each premises. If approved, the EMP becomes the major licence condition for the operation and the principle environmental controlling mechanism. At 30 June 1989, APPM Wesley Vale and Renison Ltd - Renison Bell had submitted Environment Management Plans.

Baseline Air Pollution Station

The Baseline Air Pollution station at Cape Grim in Tasmania provides the focus for Australia's participation in the World Meteorological Organisation's Background Air Pollution Monitoring Network (BAPMON). The station is funded and managed by the Bureau of Meteorology and its scientific program is supervised jointly by the Bureau and CSIRO. Its research in 1988–89 continued to focus on atmospheric constituents including the so called 'greenhouse' gases.

Industry Group Review Program

This program reviews specific industry groups statewide through site inspections, preparation of environmental status reports and where appropriate, the production of environmental management handbooks. The industry groups reviewed during 1988-89 were piggeries, fish processors and small abattoirs.

2.7 REFERENCES

Department of the Environment, *Annual Report 1988-89*, Government Printer, Hobart.

Forestry Commission of Tasmania, *Report for Year 1987–88*, Government Printer, Hobart.

Bureau of Meteorology, Hobart, Monthly Weather Review, Tasmania.

Chapter 3

GOVERNMENT AND ADMINISTRATION

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Chapter 3

GOVERNMENT AND ADMINISTRATION

Since 1 January 1901, Australia has been a federation of six States. In 1911 two territories, the Australian Capital Territory and the Northern Territory, were transferred to the Commonwealth from New South Wales and South Australia.

Government is exercised in three jurisdictions:

- Commonwealth Government, with powers derived from a written constitution and centred in Canberra, the national capital;
- State Government with residual powers (powers not reserved for the Commonwealth) which in Tasmania is centred in Hobart;
- Local Government with authority derived from State acts.

The main responsibilities of the Commonwealth Government are:

Foreign affairs and diplomatic representation; maintenance of the armed forces; customs and excise; posts and telegraphs; control of broadcasting and television; control of civil aviation; repatriation of ex-servicemen; immigration; industrial arbitration for national industries; control of coinage and currency; overseas trade promotions; employment service; pensions; national health benefits; federal territories and overseas dependencies; census and statistics; meteorological service; federal courts and police; control of banking; collection of sales and income taxes; housing assistance and defence service homes; scientific and industrial research; management of state and national debt; lighthouses and navigation.



Burnie Council Chambers

Photo: Mercury

The Tasmanian Government provides the greater number of community services including, transport, education, health, community welfare, housing, consumer affairs, forestry, fisheries, fire, police, emergency, agricultural and farming services. The Tasmanian Government is also responsible for prisons, courts, libraries, probation, racing and gaming, and labour and industry.

Local Government is mainly responsible for the maintenance of: parks, recreational and sporting facilities, roads and cemeteries, and provides town planning, sewerage, water, waste disposal and public health services.

During the two years to December 1989 the main political event within Tasmania was a State election on 13 May, nine months early. The result was 17 Liberals, 13 ALP and 5 Independents producing a change of government.

3.1 COMMONWEALTH GOVERNMENT

Legislative power of the Commonwealth is vested in the Commonwealth Parliament which consists of the Sovereign, Queen Elizabeth II (represented by the Governor-General), the Senate and the House of Representatives.

3.1.1 The Governor-General

Under the Commonwealth Constitution, ultimate executive power is vested in the Crown and is exercised by the Governor-General as the direct representative of the Sovereign. The present Governor-General is His Excellency the Honourable William George Hayden, AC, who was sworn in on 16 February 1989.

3.1.2 Commonwealth Parliament

The Senate

Since 1984 each State has been represented by twelve Senators and, in addition, the Australian Capital Territory and the Northern Territory have been represented by two Senators each since the election of 13 December 1975. Each Senator's term is normally six years, as half the Senate seats come up for election every three years. However, in the case of a double dissolution of both Houses, half the Senators are election

ted for a six-year term (the first six elected in each State) and half for a three-year term.

In Senate elections each State is an electorate. Electors are required to cast a vote for every candidate standing within the State in order of their preference or for a Party or group. Election of members is carried out in accordance with the principles of proportional representation by the single transferable vote.

Senator Michael Tate Minister for Justice

Michael Tate was elected to the Senate in 1977. After serving on a number of committees including Regulations and Ordinances, Scrutiny of Bills, Constitutional and Legal Affairs, National Resources, and several Sen-

ate Select Committees he became Minister for Justice and Special Minister of State in 1987.

Prior to his election to the Senate, he was a lecturer in Law and Dean of Faculty at the University of Tasmania.



3.1 TASMANIAN SENATORS, JULY 1990

Senator	Office address	Party affiliation	Year of retirement
Archer, B.R.	111 Wilson Street, Burnie, 7320	Liberal	1993
Aulich, T.	52 Tamar Street, Launceston, 7250	ALP	1993
Bell, R.	18 Gregory Street, Sandy Bay, 7005	Aust. Democrats	1996
Calvert, P.H.	3 Brooke Street, Hobart, 7000	Liberal	1996
Coates, J.	16 Victoria Street, Hobart, 7000	ALP	1993
Devereaux, J.R.	14 Rosny Hill Road, Rosny Park, 7018	ALP	1996
Harradine, R.W.B.	Marine Board Building,		
	1 Franklin Wharf, Hobart, 7000	Independent	1993
Newman, J.	11 Elphin Road, Launceston, 7250	Liberal	1996
Sherry, N.J.	59 Best Street, Devonport	ALP	1996
Tate, M.C.	Marine Board Building.		
	1 Franklin Wharf, Hobart, 7000	ALP	1993
Walters, M.S.	Marine Board Building,		1773
	1 Franklin Wharf, Hobart, 7000,	Liberal	1993
Watson, J.O.W.	42 St John Street, Launceston, 7250	Liberal	1996

If a vacancy occurs in the Senate, the appropriate State Government nominates a replacement, of the same political affiliation, who sits for the remainder of the term.

The House of Representatives

The founders of the parliamentary system, when designing the House of Representatives, envisaged a legislative body representing the national interest. The party holding a majority of seats in the House of Representatives, therefore controlling the House, provides the Government. The federal election of March 1990 returned the Labor Government under the leadership of Prime Minister Robert Hawke for a fourth term.

Australia is divided into 148 single-member electorates. All five Tasmanian seats were held by the Liberal Party from November 1975 until July 1987 when Duncan Kerr (ALP) replaced Michael Hodgman in Denison.

3.2 HOUSE OF REPRESENTATIVES MEMBERSHIP BY STATE

New South Wales	51
Victoria	39
Queensland	24
South Australia	13
Western Australia	13
Tasmania	5
Northern Territory	1
Australian Capital Territory	2
Total	148

Election of members is carried out in accordance with the principles of the absolute majority through use of preference voting. If a vacancy occurs, it is filled by holding a by-election. Elections must be held at least every three years.

Representation in the House of Representatives is based upon the general principle of having, as nearly as practicable, electorates with equal numbers of electors. This is provided by regular electoral redistributions.

1990 House of Representatives and Senate Election

On 16 February 1990 the Prime Minister announced an election for the House of Representatives and the Senate for 24 March.

The election resulted in the Labor party retaining Denison with the Liberal party retaining the other four Tasmanian seats.

In the Senate the Liberal Party won three seats, the ALP won two seats and the other seat went to the Australian Democrats.

3.2 TASMANIAN GOVERNMENT

3.2.1 Historical Summary

In its short history, Tasmania has experienced several forms of government; beginning with autocratic rule, it graduated to responsible self-government as a British colony and finally surrendered some sovereign powers to take its place as an original Australian State.

3.3 TASMANIAN MEMBERS OF THE HOUSE OF REPRESENTATIVES

Member	Office address	Party affiliation	Electorate
Burr, M.	Cnr Brisbane and George Streets, Launceston, 7250	Liberal	Lyons
Goodluck, B.	Marine Board Building, 1 Franklin Wharf, Hobart, 7000	Liberal	Franklin
Kerr, D.	115 Collins Street, Hobart, 7000	ALP	Denison
Miles, C.	TGIO Building, 75 Wilson Street, Burnie, 7320	Liberal	Braddon
Smith, W.	65 Cameron Street, Launceston, 7250	Liberal	Bass

The evolution of the system of bi-cameral responsible government within a federal system falls into five distinct phases:

1803-1825: The island was part of the colony of New South Wales and its lieutenant-governors and commandants were subordinate to the Governor in Sydney.

1825-1851: On 14 July 1825, Van Diemen's Land was created a separate colony with a Lieutenant-Governor directly responsible to the Secretary of State in London. A nominated Legislative Council was established.

1851-1856: The passage of the Australian Constitution Act 1850 by the Parliament in London was followed by the establishment of a new Legislative Council in which 16 members were elected and eight were nominees of the Lieutenant-Governor. The newly constituted Council first sat on 1 January 1852.

1856-1901: By the *Constitution Act 1854*, two houses of parliament, the House of Assembly and the Legislative Council were established, both houses being elected. The first Parliament sat on 2 December 1856 (the first year in which the island was officially called Tasmania); representatives of the Crown carried the title of Governor.

1901: The Tasmanian Constitution was limited by the establishment of the Commonwealth Constitution. In effect, the Parliament of Tasmania may make laws operative within the State upon all matters not within the exclusive power of the Australian Parliament but, on those matters for which the Australian Government may also legislate, the Tasmanian law may be superseded by the passing of an act by the Commonwealth Parliament.

Tasmania's legislature consists of the Queen, represented by the Governor, and two houses of parliament, the Legislative Council (upper house) and the House of Assembly (lower house).

3.2.2 The Governor

The Governor of Tasmania is the representative of the Sovereign in the State and exercises the powers of the Crown in State matters. The Queen appoints the Governor on the advice of the Premier, generally for a five-year term. Powers and duties of the Governor are similar to those of the Governor-General.

On all official State occasions, he performs the ceremonial functions as the representative of the Queen. The Governor summons and prorogues parliament; in special circumstances he

3.4 SUCCESSION OF GOVERNORS, ACTING GOVERNORS, ADMINISTRATORS, FROM 1924

		Term o	of office
Name	Designation	From	То
Sir James O'Grady, KCMG	Governor	23.12.24	23.12.30
Hon, Sir Herbert Nicholls, KCMG	Lieutenant-Governor	23.12.30	4. 8.33
Sir Ernest Clark, KCMG, KCB, CBE	Governor	4. 8.33	4. 8.45
Hon. Sir John Morris	Administrator	4. 8.45	24.12.45
Admiral Sir Hugh Binney, KCB, KCMG, DSO	Governor	24.12.45	8. 5.51
Hon. Sir John Morris, KCMG	Administrator	8. 5.51	22. 8.51
Rt. Hon. Sir Ronald Cross, Bart, KCMG, KCVO	Governor	22. 8.51	4. 6.58
Hon. Sir Stanley Burbury, KBE	Administrator	4. 6.58	21.10.59
Rt. Hon. Lord Rowallan, KT, KBE, MC, TD	Governor	21.10.59	25. 3.63
Hon. Sir Stanley Burbury, KBE	Administrator	25. 3.63	24. 9.63
Lt-General Sir Charles Gairdner, GBE, KCMG, KCVO, CB	Governor	24. 9.63	11.7.68
Hon. Sir Stanley Burbury, KBE	Administrator	11.7.68	2.12.68
Lt-General Sir Edric Bastyan, KCMG, KCVO, KBE, CB	Governor	2.12.68	30.11.73
Hon. Mr Justice Green	Administrator	30.11.73	5.12.73
Hon, Sir Stanley Burbury, KCMG, KCVO, KBE	Governor	5.12.73	30. 9.82
Hon. Sir Guy Green, KBE	Lieutenant-Governor	1.4.82	30. 9.82
Sir James Plimsoll, AC, CBE	Governor	1.10.82	8. 5.87
Hon. Sir Guy Green, KBE	Lieutenant-Governor	9. 5.87	18.10.87
General Sir Phillip Bennett, AC, KBE, DSO	Governor	19.10.87	



His Excellency General Sir Phillip Harvey Bennett, AC KBE DSO, Governor of Tasmania. Photo: Department of Defence Public Relations

may dissolve it after considering the advice of his Premier. Bills which have passed all stages in parliament are submitted to the Governor for his assent although there are some subjects which are specifically reserved for the Royal Assent (e.g. a Bill granting land or money to the Governor). He opens each session of Parliament by outlining the legislative program of the government, but takes no other part in the sittings of either House.

His executive powers include the appointment of ministers of the Crown, judges and other important State officers but not those whose appointments may be made by certain statutory corporations. By appointing ministers of the Crown, the Governor creates the Executive Council of the day and he is required by his instructions to be guided by the advice of this body. Should he feel it necessary to act against the advice of the Executive Council, he may do so, but the reasons for such action must be immediately reported to the Queen.

Tasmania's present Governor is H.E. General Sir Phillip Bennett, AC KBE DSO who was sworn in as Tasmania's 30th Governor on 19 October 1987. He was born in Perth, Western Australia, on 27 December 1928 and started his military career at the Royal Military College Duntroon. On 13 April 1984 he was promoted to General and appointed Chief of the Defence Force. He was awarded the Distinguished Service Order for service in Vietnam in 1968-69 and is a companion of the Order of Australia and Knight Commander of the Order of the British Empire.

3.2.3 The Cabinet and Executive Government

In Tasmania, as in the other States and the Commonwealth, executive government is based on the system which was evolved in Britain in the 18th century, and which is generally known as 'Cabinet', or 'responsible' government. Its essence is that the head of the State (in Tasmania, the Governor) should perform governmental acts on the advice of his ministers; that he should choose his ministers of State from members of parliament belonging to the party, or coalition of parties, commanding a majority in the popular House; that the ministry, the Cabinet, so chosen should be collectively responsible to that House for the government of the country; and that the ministry should resign or advise an election if it ceases to command a majority there.

The Cabinet system operates chiefly by means of constitutional conventions, customs or understandings, and through institutions that do not form part of the legal structure of government. In law, the executive power of the State is exercised by the Governor who is advised by the Executive Council which he himself has appointed.

Premiers

The present Premier of Tasmania is The Honourable Michael Field who, as leader of the Australian Labor Party assumed office after securing an agreement with five independents following the resignation of Mr Robin Gray.

Michael Walter Field was born on May 28 1948, at Ulverstone, Tasmania. He has a Bachelor of Arts from the University of Tasmania. Prior to entering Parliament, he was a teacher and a Community Development Officer.

He was first elected to the House of Assembly in 1976 for the Braddon electorate and three years later he became Minister for Transport, Main Roads, Construction and Local Government.

Between 1982 and 1989, while in Opposition, he held a number of shadow portfolios. In 1986 he was elected Deputy Leader of the Opposition and in late 1988 he became Leader of the Opposition.





3.5 PREMIERS FROM 1939

		Term of office
Name of Premier	From	To
A.G. Ogilvie (a)	22. 6.34	10, 6.39
E. Dwyer-Gray	11.6.39	18.12.39
R. Cosgrove	18.12.39	18.12.47
E. Brooker	18.12.47	25. 2.48
R. Cosgrove	25. 2.48	26. 8.58
E.E. Reece	26. 8.58	26. 5.69
W.A. Bethune	26, 5,69	3, 5,72
E.E. Reece	3. 5.72	31. 3.75
W.A. Neilson	31. 3.75	1. 12.77
D.A. Lowe	1.12.77	11.11.81
H.N. Holgate	11.11.81	26, 5,82
R.T. Gray	26. 5.82	3, 7,89
M.W. Field	3. 7.89	

3.2.4 The House of Assembly

The Tasmanian Lower House comprises 35 members elected for a term of four years from five seven-member electorates.

Electoral System

Tasmania uses proportional representation known as the Hare-Clark system in elections for the Assembly.

- Party groups are identified on ballot papers.
- Candidates' positions within groups are rotated so that in 'preferred' positions all candidates appear on the same number of ballot papers.
- A valid vote must show at least seven preferences.
- To secure election, candidates must gain a quota the total first preference votes divided by eight, plus one vote.
- On polling day, no media advertising and no soliciting of votes near the polling booth is permitted.
- The constituencies are the same five divisions used for House of Representatives elections.

3.6 MEMBERS OF THE HOUSE OF ASSEMBLY AS AT MAY 1989

Electoral division	Member's name	Party affiliation
	Armstrong, L. J. E.	Ind.
	Beswick, R. J.	Liberal
	Cox, J. G.	ALP
Bass	Holgate, The Hon. H. N.	ALP
	Madill, F.L.	Liberal
	Patmore, The Hon. P. J.	ALP
	Robson, N. M.	Liberal
	Bonde, W.B.	Liberal
	Cornish, R.	Liberal
	Field, The Hon. M.W.	ALP
Braddon	Groom, F. R.	Liberal
	Hollister, D. L.	Ind.
	Rundle, A. M.	Liberal
	Weldon, The Hon. M. W.	ALP
	Barker, J. S.	Liberal
	Brown, R. J.	Ind.
	Crean, D. M.	ALP
Denison	Gibson, C.A.	Liberal
	Groom, The Hon. R. J.	Liberal
	Jackson, The Hon. J. L.	ALP
	White, The Hon. J. C.	ALP
	Aird, The Hon. M. A.	ALP
	Bates, G.M.	Ind.
	Bladel, The Hon. F. M.	ALP
Franklin	Cleary, T. J.	Liberal
	Evers, N. C. K.	Liberal
	Hodgman, P. C. L.	Liberal
	Wriedt, The Hon. K. S.	ALP
	Avram, Duke of, J. C.	Liberal
	Braid, I. M.	Liberal
	Gray, The Hon. R. T.	Liberal
Lyons	Llewellyn, The Hon. D. E.	ALP
	Milne, C. A.	Ind.
	Page, G. R.	Liberal ALP
	Polley, The Hon. M. R.	ALP

Officers of the House of Assembly

Speaker - The Hon. M.R. Polley
Chairman of Committees - Dr D.M. Crean
Clerk - Mr P.T. McKay
Clerk Assistant and Sergeant-at-Arms Mr P.R. Alcock

1989 State Election

"When it [the final result] is known I will consider what advice I offer to his Excellency the Governor, whether my government forms a minority government or I advise him to ask whether the Leader of the Opposition and the other parties involved can form a government" - Mr Robin Gray, election night, May 14, 1989.

Six weeks later, Mr Gray took up the latter option but only after a dramatic period following what was an historic election.

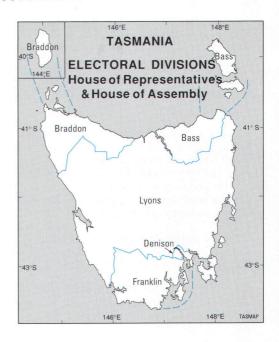
3.7 PARTY DISTRIBUTION OF VOTES IN ELECTORATES (%)

Elect- orate	Australian Labor Party	Australian Democrats	Lib- eral Party	Inde- pend- ents
Bass	37.45	1.13	47.30	14.12
Braddon	29.86		57.45	12.69
Denison	36.93	1.07	38.35	23.65
Franklin	38.28	1.54	40.12	20.06
Lyons	31.03	0.73	51.41	16.82
Statewide	34.71	0.90	46.92	17.48

Mr Gray seemed confident of securing another term as Liberal Premier when he announced a May 13 election, some nine months early. However, the poll resulted in the election of 17 Liberals, 13 Labor and a record five Independents a "hung parliament", with the most likely outcome predicted to be a minority Liberal government.

One feature of State elections in Tasmania is the frequency with which sitting members are replaced. Liberal Minister Peter Rae lost his seat as did former Opposition Leader, Neil Batt. Also defeated were Messrs Chris Batt, Greg Peart, Bob Mainwaring and Mrs Gill James. New members to the Parliament were Messrs Jim Cox, Dr David Crean, Michael Aird, Rev. Lance Armstrong, Mrs Dianne Hollister and Mrs Christine Milne.

The Liberals were still in power and three days after the election Mr Gray sent a letter to Independents, Dr Bob Brown and Dr Gerry Bates seeking a meeting. A day later Mr Field also held talks with the Independents in a bid to form a minority government. As these talks pro-



ceeded, the Liberals withdrew from negotiations, leaving the Independents with the option of securing an arrangement with the Labor Party or sitting on the cross-benches allowing the continuation of a minority Liberal government. Following several days of protracted negotiations, the five Independents and the parliamentary Labor Party signed an 'Accord' which ensured the Labor Party majority support in the parliament, just as Mr Robin Gray and his Cabinet, including Dr Frank Madill who replaced Mr Peter Rae, were sworn in as a minority government. [The parliament had been prorogued until June 28.] Claiming that anything could happen in the four weeks prior to the opening of parliament. Mr Gray and his Ministers set about the process of government. The Independents announced their intention to move a no-confidence motion against the Liberal Government on the resumption of parliament.

Public meetings in Ulverstone and Hobart were held in support of the Government while in Hobart more than 1500 people packed the City Hall to support the 'Accord'.

However, on June 23, a dramatic new turn occurred. A Mr Tony Aloi of Melbourne was arrested and charged with attempted bribery and conspiracy to bribe. It was alleged that Mr Cox (ALP) was offered a \$110 000 payment to cross the floor and vote with the Liberal Party. Five days later, Mr Edmund Rouse, a leading busi-

nessman, was also charged with offering a bribe.

On June 28 the new Parliament met amid speculation about the action of the Premier, Mr Gray, in the event of a successful no-confidence motion in the Liberal Government.

The first test was the election of a Speaker. With the support of the five Independents, Mr Michael Polley (ALP) was elected and Dr David Crean (ALP) was elected Chairman of Committees. After the traditional address by the Governor, and afternoon tea, Dr Brown (Independent) moved an amendment to the address in reply:

That the motion be amended by adding -

'WE FURTHER RECORD

- (1) That neither the Premier, the Honourable Robin Gray, nor his Government has or has ever had the confidence of this House; and
- (2) That the member for Braddon, the Honourable Michael Field, has and will continue to have the confidence of this House.

Accordingly, this House calls upon the member for Lyons, the Honourable Robin Gray to resign his commission as Premier forthwith and respectfully requests His Excellency the Governor to ask Mr Field to form a government forthwith.'

At 7 a.m. the next morning, Dr Brown's motion was finally passed, following which it was delivered to the Governor. During the afternoon the Governor held discussions with Mr Gray, Mr Field, and each of the Independents, Drs Brown and Bates, Rev. Armstrong, Mrs Hollister and Mrs Milne. In the early evening Mr Gray tended the resignation of his government and at 8 p.m. Mr Field was sworn in as Premier, to head an ALP government in an alliance with the five Independents.

3.2.5 The Legislative Council

The Legislative Council has the tradition of being a non-party house; in 1985 the composition of the house was 18 Independents and one Labor Party representative. The leader for the Government in the Legislative Council therefore cannot rely upon a vote taken on party lines to ensure the passage of any government bill. Contrary to the House of Assembly where parties usually dominate to ensure the passage of Gov-

ernment legislation, no such certainty exists with legislation through the Council. As a result it is not unusual for legislation to be amended or even rejected. Where conflict occurs between the two Houses, 'managers' are appointed from each House to meet and attempt to resolve the dispute. Occasionally, even such 'Managers' Conferences' fail to resolve the differences.

3.8 MEMBERS OF THE LEGISLATIVE COUNCIL, JULY 1989

Electoral division	Member's name	Year of retirement
South Esk	Archer, The Hon. R.C.	1992
Derwent	Batt, The Hon. C.L. (a) (b)	1991
Mersey	Braid, The Hon, H.W.	1990
Westmorland	Chellis, The Hon. D.O.	1991
Russell	Fletcher, The Hon. A.W.	1993
Newdegate	Ginn, The Hon. R.W.	1993
West Devon	Hiscutt, The Hon. H.J.	1995
Meander	Hope, The Hon, R.T.	1991
Tamar	Loone, The Hon. J.A.	1995
Buckingham	Lowe, The Hon. D.A. (c)	1992
Pembroke	McKay, The Hon. P.C.	1995
Cornwall	McKendrick, The Hon. R.L	. 1990
Huon	Meyer, The Hon. A.Y.	1990
Hobart	Petrusma, The Hon. H.	1994
Gordon	Schulze, The Hon. P.R.	1994
Macquarie	Shaw, The Hon, G.A.	1992
Queenborough	Stopp, The Hon. E.J.C.	1995
Monmouth	Wilson, The Hon. S.J.	1993
Launceston	Wing, The Hon. D.G.	1994

- (a) Endorsed by the Australian Labor Party; all other members are Independents.
- (b) Deputy Leader for the Government.
- (c) Leader for the Government.

Officers of the Legislative Council

President - The Hon. G.A. Shaw
Deputy President and Chairman of
Committees - The Hon. R.T. Hope
Clerk - Mr R.J.S. McKenzie
Usher of the Black Rod - Mr D.T. Pearce
Second Clerk-Assistant - Ms W.M. Peddle

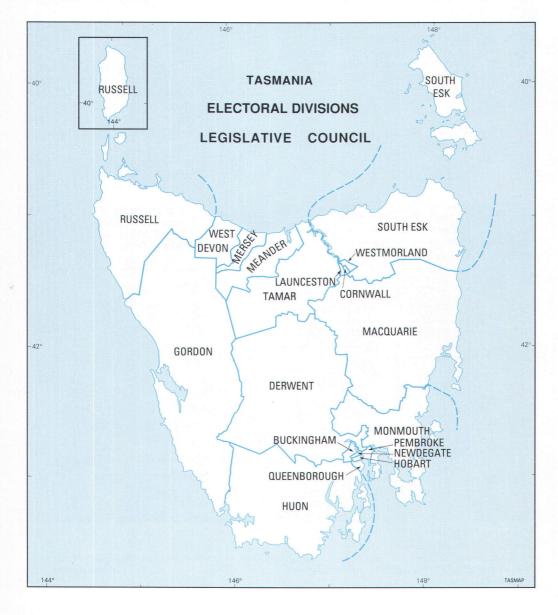
Following conflict between the two Houses of Parliament over a money bill during 1924 and 1925, the Constitutional Amendment Act 1926 was passed. This Act defined the relations between the two Houses especially with regard to the passing of money bills.

- The Legislative Council retains the right to reject any bill, including a money bill.
- The Council is specifically prevented from amending bills to raise revenue for the ordinary annual services of the Government and bills imposing land and income tax.
- It can suggest to the House of Assembly that amendments be made but the adoption or rejection of such amendments is at the discretion of the Assembly.

Apart from the above specific exception, the Council retains the right to amend money bills, e.g. those dealing with loan funds or probate. The House of Assembly is given the sole right to initiate bills for the raising of revenue and the imposition of taxes. Finally, the powers of the two houses are declared equal in all matters except for these specific exceptions.

Legislative Council Elections

Members of the Legislative Council are elected by 19 single member electorates for six-year terms by preferential voting. Elections are held



every year to elect three members except for every sixth year when four members are elected.

As for the Assembly, candidates' names are rotated on the ballot papers. To be elected a candidate must obtain 50 per cent of the valid votes plus one, including preferences. A valid vote must show at least three preferences.

Rotational elections were held for the electorates of Gordon, Launceston and Hobart in 1988 and for Queenborough, Tamar, West Devon and Pembroke in 1989. Retired mining engineer and a former warden of Queenstown, Mr Peter Schulze topped the Gordon poll on primaries from a field of five candidates and was elected after the distribution of preferences. In Launceston, the sitting member and former mayor, Mr Don Wing won a landslide victory from two other candidates. Mr Hank Petrusma, the sitting member for Hobart was returned unopposed.

Deloraine sporting identity and community worker, Mr John Loone, won the seat of Tamar on preferences, ahead of five other candidates. Sitting member, Mr Hugh Hiscutt was returned in West Devon on first preferences. In the south, Mr Peter McKay, retained Pembroke and Mr John Stopp was returned in Queenborough.

3.2.6 Departments

The system of responsible government in Tasmania requires that the executive power of the State shall be exercised by the Cabinet; in exercising this power, the Ministers of the Cabinet are held responsible for the actions and administration of government departments and other governmental authorities which have been created to put into practice the laws made by parliament, to give effect to the decisions of the ministry, and to advise the ministry on matters of policy.

Following the commissioning of the Labor government led by Mr Field, the public service was radically restructured with more than 50 departments, authorities and agencies reshaped into 18 super departments. Among the major changes were the merger or amalgamation of:

 the Mental Health Services Commission into the Department of Health;



Tasmania's Parliamentary Cabinet
H. Holgate, J. Cox, J. Jackson, D. Crean, J. White, M. Polley, M. Field, D. Llewellyn, F. Bladel, M. Weldon, M. Aird,
C. Batt, P. Patmore, K. Wriedt
Photo: Mercury

	Ministers	, Portfolios and Responsibilitie	es as at August 1989
The Hon. M.W. Field	Premier, ister for P	Minister for Finance and Treasurer, bublic Administration	Minister for State Development and Min
Audit Departn His Excellenc Governor's Es	y The	Department of Finance Tasmanian Development Authority Tasmanian Gaming Commission	Department of Premier and Cabinet Department of Public Administration Super. Accumulation Fund Board
The Hon. P.J. Patmore	Deputy Pand the A	remier, Minister for Justice and Attorts	orney-General and Minister for Education
Department of MAIB	f Justice	Schools Board of Tasmania Office of the Ombudsman	Museum and Art Gallery Department of Education and the Arts
The Hon. M.A. Aird	Minister f and Train	for Environment and Planning, Miniing and Minister Assisting Premier of	ster for Employment, Industrial Relations on Youth Affairs
Department of Department of	Employment, In Environment an	dustrial Relations and Training d Planning	Training Authority of Tasmania Tasmanian Industrial Commission
The Hon. F.M. Bladel	Minister Women	for Administrative Services and M	Minister Assisting Premier on Status of
Department of	Administrative S	Services	
The Hon. H.N. Holgate	Minister f	or Tourism, Sport and Recreation	
Department of Licensing Boa	Tourism, Sport and of Tasmania	and Recreation	Tasmanian Racing Directorate
The Hon. J.L. Jackson	Minister f	or Community Services, Minister fo	r Parks, Wildlife and Heritage
Trustees of the Department of	Tasmanian Bota Parks, Wildlife	anical Gardens and Heritage	Department of Community Services
The Hon. D.E. Llewelly	Minister for	or Primary Industry and Minister for	Forests
Forestry Depar Egg Marketing		Department of Primary Industry Inland Fisheries Commission	Dairy Industry Authority Tasmanian Grain Elevators Board
The Hon. M.W. Weldon	Minister o	f Resources and Energy and Minister	er for Construction
Department of Hydro Electric	Construction ity Commission	Department of Resources and Energy Hobart Regional Water Board	
Γhe Hon. J.C. White	Minister for Assisting t	or Health, Minister Assisting the Prethe Premier on Multicultural Affairs	emier on Aboriginal Affairs and Minister
Department of	Health	Mental Health Services Commission	Boards of Public Hospital Districts
The Hon. K.S. Wriedt	Minister fo	or Roads and Transport and Minister	for Police and Emergency Services
Transport Depa Tasmanian Fire		Department of Roads and Transport Metropolitan Transport Trust	Department of Police and Emergency Services Tasmanian Ambulance Service

- the Departments of Agriculture and Sea Fisheries into the Department of Primary Industry;
- the Departments of Mines and Rivers and Water Supply and the Hydro-Electric Commission into the Department of Resources and Energy;
- the Department of Sport and Recreation with Tourism; and
- the Town and Country Planning Commission and the Department of the Environment to create a new Department of Environment and Planning.

3.3 LOCAL GOVERNMENT

As at 31 December 1989, local government in Tasmania is administered by the councils of 40 municipalities and the six cities of Hobart, Launceston, Glenorchy, Devonport, Burnie and Clarence. Each council is responsible for the provision of many of the services necessary for the organisation and welfare of the community which it represents.

In Tasmania there are only two categories of local government, a municipality or a city. Before a municipality can petition to become a city, it must have had, for five years before the petition, an average population of not less than 20 000.

For any of a number of reasons, the Minister administering the Local Government Act may consider it necessary to recommend suspension of the elected councillors and the appointment of a commission, or in certain cases, an administrator to carry on municipal government in a particular municipality.

A councillor must be an elector of, and either reside or carry on business in, the municipality. Councils may comprise six, nine, 12 or 15 councillors. The Warden, Deputy Warden and Trea-

surer are elected by the council members on an annual basis. The electors of Hobart elect the Lord Mayor and in Glenorchy, Devonport, Burnie and Clarence the electors elect the Mayor. However, the Mayor of Launceston is elected by Council members. The office of warden is comparable with that of the mayor of a city or the president of a shire in other States.

Clarence became Tasmania's sixth, and second largest city, when it was proclaimed on November 24, 1988. Councillor, and Warden, Alan Sproule became the city's first mayor.

On January 1, 1989, Launceston marked its centenary as a city. The first city mayor was Ald. David Scott; its mayor in 1989 was Ald. Jimmy Tsinoglou. In 1889 it had a population of 19 412 which, 100 years later, had grown to 66 000 with the incorporation of Lilydale and St Leonards.

In local government elections, Mrs Cathy Edwards became the first elected Mayor of the City of Clarence, and Tasmania's second female mayor after the election of Alderman Doone Kennedy as Lord Mayor of Hobart in 1988. In Launceston Alderman Tsinoglou became the first mayor of Launceston to serve three terms.

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Chapter 4

LAW AND ORDER

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Chapter 4

LAW AND ORDER

Tasmania's laws, legal system and institutions are derived from those of Britain. Indeed, for a time, English law directly applied to the colony and, by Federation in 1901, all Australian States had a legal system firmly based on the Common Law of England. With Federation, Tasmanians also became subject to Commonwealth laws enforced by administratively separate institutions.

The legal system is based on the political and philosophical ideal called *the rule of law*. This means a person's relations with other people and the State are governed by law, not by force or arbitrary power. The Parliament enacts the law and officers who administer the law are responsible, through parliament, to the people.

Another principle of the rule of law is that no person should be deprived of his life, liberty or property except by fair trial in open court presided over by impartial judges. In law, all people are equal.

Australia has two sources of law, case law and legislation or statute law. Case law, also called common law, consists of rules resulting from the decisions of the courts. When a case comes before the courts, the judges generally apply the law as laid down or interpreted by earlier courts that decided similar cases.

The Commonwealth and State parliaments make Australia's laws within powers set out in the Constitution. Often legislation gives power to the Governor-General, Governor or a Minister to make rules of law. Such laws, called subordinate, or delegated, legislation are an important part of the law.

State, and Commonwealth, police are charged with enforcing the law. The police have broad



Tasmanian Police Nissan Skylines. Photo: Tasmanian Police Department

powers to investigate breaches of the law and to arrest people suspected of crimes. Usually, it is the police who institute criminal proceedings. Each State as well as the Commonwealth has its own police force.

When formal charges are laid, guilt or innocence is determined through trial in a court. In Tasmania, this is either the Supreme Court or, for less serious matters, a lower court, with each having jurisdiction in civil, as well as criminal, matters. In civil trials and in criminal matters in the lower courts the issue is generally determined by a magistrate. In the Supreme Court questions of guilt in criminal matters are decided by a jury.

Although the Tasmanian jury system is based on the English system it has, since 1934, embodied the principle of allowing majority decisions in certain circumstances instead of requiring the unanimous decisions once characteristic of juries in England. In criminal cases, a 10-2 decision is accepted in lieu of 12-nil after stipulated periods of deliberation. In the case of murder, 12-nil is necessary to convict, but 10-2 can bring in a verdict of not guilty, or not guilty of murder but guilty of a lesser crime.

Civil litigants may elect to have a sevenmember jury and, if after three hours deliberation a seven-nil decision cannot be reached, a five-two decision is accepted. If the minimum five-two decision cannot be reached after four hours, the jury may be discharged.

At present, all people listed on the electoral roll below the age of 65 are liable for service as jurors. However, persons convicted of an offence, bound by a recognizance or subject to a work order or probation are disqualified from service.

Within limits prescribed in legislation, the presiding officer of the court imposes a sentence; imprisonment, a fine, probation, or a community service order. A term of imprisonment may be suspended on condition of good behaviour.

Crime Frequency, 1988-89

Property crimes	One offence every 17.4 mins.
Theft (excluding	
motor vehicle theft)	One offence every 33.8 mins.
Burglary	
(excl. motor vehicles)	One offence every 68.6 mins.
Fraud, forgery, and	
misappropriation	One offence every 353.5 mins.
Motor vehicle theft	One offence every 421.8 mins.
Wiotor vemere mert	One offence every 421.8 mms.

4.1 POLICE

Directed by a Police Commissioner answerable to the Minister of Police, the Police Department is composed of a force of 1074 officers (one per 420 persons) plus support personnel. It consists of four main branches; criminal investigation, traffic control, recruitment and training, and support services.

The duty of a police officer is to serve the community by protecting life and property, preserving the peace and detecting and apprehending offenders. There are few limits however to the variety of tasks police officers are called on to perform.

4.1.1 Criminal Investigation

Tasmania Police has Criminal Investigation Branches in their Divisional Headquarters at Hobart, Launceston and Burnie. The task of each branch is to detect and investigate crime and to offer the public advice on how to prevent crime.

Modern methods of criminal investigation help produce a high rate of reported crime being 'cleared-up'. In 1988-89 the clear-up rate of indictable criminal offences reported was 21.3 per cent.

Reported Serious Crime Per Head of Population

1980-81 1 crime per 3.86 perso	ns
1985-86 1 crime per 4.85 perso	ns
1986-87 1 crime per 4.78 perso	ns
1987-88 1 crime per 4.28 perso	ns
1988-89 1 crime per 4.66 perso	ns

Uniform officers from police stations are often the first on the 'scene of a crime' and their reports are sent to the Divisional Criminal Investigation Branch (CIB) for specialist attention. Each crime report is examined by senior officers and allocated to a detective. Then can follow hours of telephone calls, general enquiries, in-

4.1 OFFENCES RECORDED BY TASMANIA POLICE

Offences	1987-88	1988-89
Assault and like offences	1 216	1 455
Homicide and like offences	14	17
Crimes of indecency and		
like offences	126	92
Other offences against the person	21	22
Offences against property	26 296	30 167
Fraud and similar offences	1 695	1 487
Miscellaneous police offences	3 237	4 3 1 5
Licensing Act offences	2 717	3 145
Racing and Gaming Act offences	41	20
Traffic and road safety offences	66 074	52 903
Miscellaneous Acts and offences	3 445	3 161

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terviews, examination of statements and forensic reports in an effort to track down offenders.

Specialist squads within the CIB investigate such matters as major crime, illicit drug activity, vice, gaming, fraud, corporate affairs, arson, breaking and stock theft.

4.1.2 Traffic Control

The aim of traffic police is to keep traffic moving safely on Tasmanian roads. Detection of traffic offenders is the primary role, with parking offences, general road traffic management duties and attendance also important.

The Accident Investigation Squad attends all fatal and serious accidents where serious charges are likely to arise. It is the duty of the first police officer on the scene of an accident to ensure it remains undisturbed until the arrival of the Squad. It is also the duty of the officer to ensure all the drivers of the vehicles involved are given a breath analysis. The officer also has the task of ensuring next of kin are notified and of completing the initial Coroners Form. In 1988 there were 1457 road traffic accidents on Tasmanian roads that involved casualties.

The Road Toll

The number of people killed or injured on the roads in recent years has stabilized. The intervention of both blood-alcohol limit and compulsory seat-belt legislation is believed to have mitigated the toll, but alcohol, speed, pedestrian fault, failure to keep left and failure to give way remain as major contributors to the fatality rate.

4.2 THE ROAD TOLL, TASMANIA

Period	Persons killed	Persons injured	Total
1983	70	1 473	1 543
1984	84	2 015	2 099
1985	78	2 070	2 148
1986	91	2 060	2 151
1987	77	1 959	2 036
1988	75	1 925	2 000
1989	80	1 997	2 077

4.1.3 Support Services

Tasmania Police is assisted by various support services which are administered and developed by the Management Services District which has six specific areas of operation: Planning and Research Section; Search and Rescue Section; Transport Section; Communications (Technical) Section; Information Bureau; and Scientific Bureau. Of special assistance to Criminal Investigation and Traffic Branches is the Scientific Bureau.

In recent times, drug trafficking has spread throughout the world. Since 1984 specialised personnel highly qualified in their respective fields have worked closely together in the investigation of drug related crime. Their forensic duties are performed in co-operation with the Government Pathologist and Analyst.

4.1.4 Crime Prevention

A vigilant, well informed public can take an active role in crime prevention. Making people responsible for their own safety and the security of their property is the aim of officers who work in the Crime Prevention Bureau of Tasmania Police.

With the objective of reducing preventable crime, advice is readily available to householders, businesses, government and other police officers. Many lectures and workshops are given every year to schools, service clubs and businesses. The Neighbourhood Watch Program is supported by police who attend neighbourhood meetings and provide information on local crime rates and help where needed. They also test the many anti-crime devices offered by commercial firms, such as locks and payroll protection.

Police Staffing

The basic requirements for entry to the police force are Australian or British citizenship, age and education and entrants must pass an exam and physical fitness test. The candidates are interviewed by a selection board and medically examined before a final selection of recruits is made. In 1988, 77 recruits were inducted into the force.

The training course for recruits is a 32 week fully residential course conducted at the Police Academy at Rokeby, near Hobart. There is a full study schedule of academic and practical subjects, and physical training and sport. Recruits get a chance to work in police stations, with community groups and to develop survival skills in the bush. The curriculum is based on the modern thematic modular approach to specific problem areas which face police officers. Legal

procedures, social and practical policing techniques of each area are taught at the same time.

4.2 COURTS

Courts are tribunals set up to hear arguments to resolve allegations that offences have been committed and to resolve disputes. Where offences are proven the courts impose a penalty or penalties; where matters in dispute are decided the court can impose appropriate conditions of settlement.

As in the other Australian States, Tasmanian courts derive from British traditions. Thus the basic hierarchy of courts is similar between States, except that in Tasmania there are no intermediate courts. The Higher courts are titled Supreme Courts and deal with matters of a major nature. Civil matters brought before the Supreme Court will usually be heard by a judge alone and in criminal cases by a judge and jury. It also hears appeals from lower courts at which the case will be heard by a single judge. Appeals from the Supreme Court will be heard by several judges, referred to as the Full Court of the Supreme Court or the Court of Criminal Appeal.

Lower courts in Tasmania are known as Courts of Petty Sessions or Magistrates Courts and deal with minor civil or criminal matters. Civil matters involving amounts of less than \$5000 are heard in Courts of Requests.

Cases involving children are heard by the Children's Courts and may involve either a criminal matter or an allegation under child or community welfare legislation relating to a child being in need of care, control or protection.

In addition, inquests concerning certain deaths or the cause of fires are held as required in Coroners Courts.

Although not strictly courts, there are also a number of tribunals set up under particular statutes to act as specialised courts. An example is the Wardens' Court constituted under the *Mining Act* 1929 to hear matters involving mining licences.

Tasmanians, like the residents of the other States, are subject to Commonwealth laws, for which there is a system of Commonwealth Courts. The most prestigious is the High Court of Australia constituted by the Chief Justice and six other Justices to resolve inter-state disputes and disputes between the Commonwealth and the States. If there is sufficient business, the High Court may sit in Hobart.

With the passing of the *Family Law Act*, in 1975, the Family Court of Australia was established to deal with divorce and the custody of children. The sole ground for divorce became irretrievable break down of marriage.

4.2.1 Supreme Court

The Supreme Court of Tasmania is constituted by the Chief Justice and six puisne judges. Regular sittings of the court are held at Hobart, Launceston and Burnie, although the court is authorised to sit and act at any time and at any place in the exercise of the jurisdiction and business of the court.

The court has jurisdiction over all cases, both civil and criminal, except those reserved for other courts under the Australian Constitution. It also exercises federal jurisdiction in particular matters; for example all criminal matters (including those covered by the *Commonwealth Crimes Act*) are heard in State courts. Its civil jurisdiction extends to all cases of action, whatever the amount involved, and its criminal

The Supreme Court of Tasmania

Chief Justice

Sir Guy Green, appointed 1973.

Puisne Judges

The Hon. Mr Justice Francis Neasey, appointed 1963.

The Hon. Mr Justice Robert Nettlefold, appointed 1971.

The Hon. Mr Justice William Cox, appointed 1982.

The Hon. Mr Justice Peter Underwood, appointed 1984.

The Hon. Mr Justice Christopher Wright, appointed 1986.

The Hon. Mr Justice Ewan Crawford, appointed 1988.

jurisdiction includes the trial of all indictable offences.

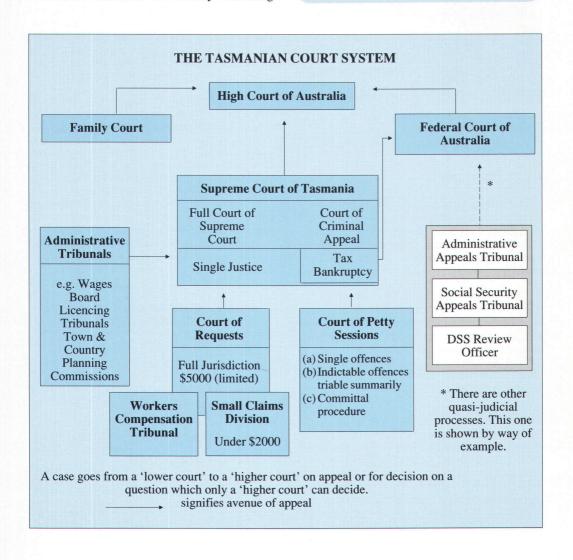
The jurisdiction of the court is usually exercised by one judge of the court. From his decision there is a right of appeal to the Full Court of the Supreme Court of Tasmania. A Full Court usually consists of three or more judges of the court. The Full Court is also a Court of Criminal Appeal under the Criminal Code. Appeals may be brought to the Supreme Court by the prosecution or by the defendant from conviction or sentence in a Court of Petty Sessions, or from many administrative tribunals.

Unlike a Children's Court, the Supreme Court is in no way inhibited in imposing a penalty on a child. In addition to its ordinary sentencing

4.3 OFFENCES, TASMANIAN SUPREME COURT, 1989

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Offence	Finalised	Proven
Offences against the person	215	177
Robbery and extortion	11	11
Breaking and entering, fraud and		
other offences involving theft	711	578
Property damage and		
environmental offences	42	41
Offences against good order	34	33
Drug offences	102	62
Motor vehicle, traffic and related		
offences	8	7
Other offences	1	1
Total	1 124	910



powers, it may make supervision or wardship orders, and commit a child to an institution. If a child is sentenced to imprisonment, the Minister responsible may direct that the sentence be served in a place other than a gaol.

In 1989, 81 per cent of matters finalised in the Supreme Court were proven. Most of the matters finalised, 93 per cent, involved males.



The Supreme Court, Hobart. Photo: Tasmap Photographic

4.2.2 Lower Courts

The lower courts are presided over by magistrates or justices of the peace and exercise both criminal and civil jurisdiction in minor matters. Both jurisdictions are kept separate although the same magistrate or justice of the peace may preside over both types of case.

Civil cases include minor disputes in the 'common law' area such as landlord and tenant disputes and hire purchase; magistrates generally try cases alone, without a jury. In their criminal jurisdiction the courts have power to try and impose sentence in summary offences. Some magistrates preside over Children's Courts.

Courts of Petty Sessions

There are Courts of Petty Sessions sitting in Hobart, Launceston, Devonport and Burnie, as well as temporary courts in other country centres. The court is constituted by a magistrate (who must have been a legal practitioner or barrister for not less than five years) or by two or more lay justices. In major centres of population, a court sits regularly; in smaller centres a

court sits less frequently or is convened as occasion requires.

A Court of Petty Sessions has jurisdiction over all summary offences and also over certain indictable offences at the option of the defendant, including escape, facilitating escape and related offences; stealing, fraud and receiving stolen property of a value between \$500 and \$5000; unarmed breaking into a building other than a dwelling where the value of the property involved does not exceed \$5000; and forgery and uttering of a cheque for not more than \$5000.

Courts of Request

These are constituted as courts with civil jurisdiction for particular municipalities in accordance with the authority given by the *Local Courts Act* 1896. Courts are held before a commissioner who is usually a magistrate. Every court has jurisdiction throughout the State but a plaintiff may have his action struck out if he brings it in a court other than the court nearest to which the cause of action arose.

The current jurisdiction of a Court of Requests covers all personal actions where the debt or damage claimed does not exceed \$5000.

The Small Claims Division of the Magistrates Court was established to deal with claims of up to \$2000. The primary function of the magistrate hearing the claim is to attempt to bring the parties to a dispute to an acceptable settlement but, if he cannot do so, he may determine the matter in dispute. Proceedings in this jurisdiction are private, straightforward and informal. Legal practitioners are excluded as a general rule, and the magistrate may proceed as he sees fit.

4.4 OFFENCES, TASMANIAN LOWER COURTS, 1989

Offence	Finalised	Proven
Offences against the person	970	713
Robbery and extortion	8	
Breaking and entering, fraud and		
other offences involving theft	4 944	4 473
Property damage and environmental		
offences	779	710
Offences against good order	7 927	7 232
Drug offences	2 129	2 044
Motor vehicle, traffic and related		
offences	5 991	5 897
Other offences	715	632
Total	23 463	21 701

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Matters finalised in the lower court may be finalised by referral to the Supreme Court. In 1989, 390 matters were finalised by this method. Most were in relation to the more serious crimes of offences against the person and breaking, entering, fraud and other theft. About 83 per cent of matters finalised involved males, a similar percentage to that for higher courts. In terms of age the majority of matters coming before the courts relate to young offenders; males in the age bracket 15-24 account for about 55-60 per cent of male matters finalised. (Males in this age group comprise only 23 per cent of the male population aged 15 years and over.) A similarly high proportion of female matters finalised relate to women in this same age bracket.

Children's Courts

A 'child' in this jurisdiction is one under the age of 17 years. The court before finally disposing of the case, must receive a report from a child welfare officer (the representative of the Director of Community Welfare), unless the court considers the offence trivial or the Director decides not to provide one. A child's parent has the right to be heard and to examine and cross-examine witnesses, or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience.

In summary proceedings, the court is compelled not to enter a conviction against a child unless it imposes a sentence of imprisonment or there are special circumstances which indicate that a conviction should be recorded.

4.5 OFFENCES, TASMANIAN CHILDREN'S COURTS, 1989

Offence	Finalised	Proven
Offences against the person	52	49
Robbery and extortion	3	3
Breaking and entering, fraud and		
other offences involving theft	1 652	1 603
Property damage and environmental		
offences	108	103
Offences against good order	1 331	1 213
Drug offences	44	41
Motor vehicle, traffic and related		
offences	42	41
Other offences	10	9
Total	3 242	3 062

Children under 16 years cannot be sentenced to imprisonment and children of 16 years cannot be sentenced for more than two years, in aggregate. Minimum penalties imposed by statute do not apply to children; for those under 14 years the maximum fine is \$20, and for those over 14 years, \$100. The court may impose a supervision order to bring the child under the guidance of a child welfare officer or, if over 15 years, of a probation officer. Alternatively, the court may declare the child a ward of the State, placing him or her under the control of the Director for Community Welfare until his or her eighteenth birthday, unless released sooner; it may also direct that a ward be committed to an institution. In cases where further investigation appears necessary the Court may issue a remand for an observation order before it makes a final decision. Remands for observation orders are for short periods and usually provide for intensive supervision. Neglected or uncontrolled children are also in the Court's jurisdiction.

Coroner's Court

Coroners are appointed by the Governor and have jurisdiction throughout the State. Under the *Coroners Act* 1957, a coroner may hold an inquest:

- concerning the manner of death of any person who has died a violent or unnatural death, who died suddenly without cause being known, or from 'sudden infant death syndrome' or 'cot death', or who died in a prison, or mental institution. At the direction of the Attorney-General, he may also be required to hold an inquest concerning any death; and
- concerning the cause of any fire if the Attorney-General has directed, or has approved a request by the owner or insurer of the property; or at the request of the State Fire Authority or the Rural Fires Board.

The duty of the court is to determine who the deceased was, and the circumstances by which death occurred. Medical practitioners and other persons may be summoned to give evidence. In the case of the death of an infant in a nursing home, the coroner may also inquire generally into the conditions and running of the institution. On the evidence submitted at the inquest, the coroner can order a person to be committed to the Supreme Court and can grant bail. In the case of murder, a coroner can issue a warrant for apprehension.

The coroner, in holding an inquest, usually acts alone, but either the Attorney-General or the relatives of the deceased may request that a four or six-person jury be empanelled. After considering a post-mortem report the coroner may dispense with an inquest, unless the circumstances of death make an inquest mandatory under the Act.

The Coroners Amendment Act 1985, brought forward two significant innovations; the tape recording of depositions to speed up the hearing of inquests, and new provisions dealing with the care, custody and control of exhibits which may prove useful to those persons who need the use of exhibits pending the hearing of inquests or who seek possession of exhibits when the inquest is over.

4.2.3 Commonwealth Courts

The High Court of Australia

The High Court has original jurisdiction under the *Commonwealth of Australia Constitution Act* 1901 in cases concerning treaties, consuls, the Commonwealth of Australia as a party, residents in different States and matters arising under the Constitution.

It is the final court of appeal for Commonwealth and State Courts; it hears appeals from State Supreme Courts and the Federal Court of Australia, and in some circumstances, from the Family Court of Australia.

The Family Court

The Family Court of Australia was set up by the *Family Law Act 1975*. It hears petitions for divorce and has jurisdiction in the welfare and custody of children and in disputes as to maintenance and property of marriage.

4.6 DIVORCES GRANTED BY SEX OF PETITIONER

Year	Males	Females	Joint (a)	Total
1983	497	862		1 359
1984	431	754		1 185
1985	450	695	24	1 169
1986	464	736	45	1 245
1987	415	660	40	1 115
1988	455	688	77	1 220

(a) Under the *Family Law Act* joint applications for divorce became possible from 1 December 1984.

Family Violence

Organisations and agencies specifically dealing with domestic violence issues have been established in recent years, not only to increase awareness of formal legal rights and responsibilities, but also to raise community awareness of the problem and to offer alternative solutions. The primary aim of such organisations is to suggest practical steps that may avert the worst effects of domestic violence at the point of crisis.

Practical measures against family violence usually involve seeking immediate protection for the victims. The police are an obvious source of assistance and have a range of powers to investigate and guard against breaches of the peace, although police action often depends upon the request of a victim. The Crisis Intervention Unit of the Department of Community Services offers advice and assistance in obtaining alternative accommodation or enhanced security and communications facilities to persons at risk.

Women's Refuges provide crisis accommodation to women and children until a threatening situation has abated. Child Protection is specifically catered for under the *Child Protection Act* which includes mandatory reporting of suspected child abuse cases by medical practitioners, and wide powers for officers to investigate and act upon any reports of child abuse. Counselling services are available to parties, including advice in specific areas such as alcohol abuse and through self-help groups for violent men.

Legal remedies available include the laying of charges of assault or of more serious indictable offences. If an alleged assailant is granted police bail, conditions such as that the defendant not approach, harass or molest the victim, or telephone or directly contact them, may be applied.

Domestic Restraint Orders, specifically designed under the Justices Act, are also available to provide victims of domestic violence with legal protection. Similar provisions are also included in the *Family Law Act* where parties are involved in Family Court proceedings.

In 1988, 1220 divorces were granted, an increase of 105 on the number granted in the previous year. About 56 per cent of the petitioners are females.

The Federal Court of Australia

Established in 1976 to replace the former Australian Industrial Court and the Federal Court of Bankruptcy, it sits in two divisions, Industrial and General.

4.3 SENTENCES

Statutes creating offences in criminal law often prescribe a penalty for the crime. It is, however, a maximum penalty. The magistrate or judge may exercise discretion in deciding what is appropriate, taking into consideration the particular offender, and the circumstances of the offence.

The death sentence was abolished in Tasmania in December 1968 having last been imposed in 1946. Punishment has been regarded as preventive, exercised to avoid further trouble from the offender. In all forms of punishment, deterrence, the imposition of a severe sentence on the offender as an example to the community, is a strong element.

Although fines and terms of imprisonment remain frequently imposed penalties, the modern trend has been toward avoiding the use of imprisonment. This is the basis for such sentences as community service orders and probation.

4.3.1 Fines

A fine is the penalty most frequently imposed by the courts. In 1989 fines provided just on 39 per cent of all penalties imposed by all courts, with the majority being handed down by magistrates. More than three quarters of all fines imposed related to just two offence categories, motor vehicle offences and offences against good order. Most fines imposed are for amounts of less than \$100; 54 per cent of fines in 1989. Only 13 per cent of fines are for amounts in excess of \$250.

4.3.2 Imprisonment

Tasmania's main prison is at Risdon, near Hobart, which has, as an outstation a prison farm at Hayes in the Derwent Valley. A prison at the Police Headquarters building in Launces-

Legal Aid Services

Legal Aid is intended to provide access to the law to people who would otherwise be unable to afford it. The solicitors and others who provide legal aid are salaried or funded by government. Services provided include legal advice and assistance in legal procedures concerning civil or criminal matters ranging from small legal problems to appeals to the High Court.

Legal advice, covering legal rights and problems including appropriate referral and sources of further advice, is provided free of charge by government and government-funded agencies. Legal assistance most often involves representation in court but may also cover drafting of documents, legal negotiation and a range of complementary and other services.

Legal assistance is generally subject to means testing and to the merits of the prospective case. The primary provider is the Australian Legal Aid Office, through its salaried solicitors or via private practitioners. A State Legal Assistance Scheme is run by the Law Society of Tasmania to assist needy persons ineligible for Australian Legal Aid. A basic function of the scheme is the provision of duty solicitors at magistrates courts and the prison.

Community Legal Centres (CLSs) provide alternatives to mainstream legal aid. Voluntary lawyers and community workers offer advice to clients, primarily during evening sessions. Referral and assistance with self-help are the primary forms of assistance given. Because of the high level of demand on their services, CLSs have become involved in community legal education and in advocating specific law reform issues. The release in 1988 of the *Law Handbook*, a comprehensive but non-technical guide to the law and legal services in Tasmania, is an example of the educational role of the CLSs.

Other agencies which provide more specialised legal aid services include the Aboriginal Legal Service, the Human Rights and Equal Opportunities Commission and the Child Support Agency.

ton is a temporary holding centre where prisoners are held prior to being transferred to Risdon.

Approximately 93 per cent of people sentenced to gaol are males. In 1988-89, 642 prisoners were received - 599 males and 43 females. However, there were 717 imprisonments during the period. A number of prisoners, almost entirely males, therefore had more than one prison sentence during the year. Almost 60 per cent of the people sentenced to gaol in 1989 had been imprisoned previously. Of the 376 people (59 per cent) with previous prison sentences, 50 per cent had been to prison at least three times before.

The biggest proportion of imprisonments was for offences against good order and offences relating to breaking and entering, fraud and other offences involving theft. Offences relating to motor vehicle and traffic were also relatively high. Only about 12 per cent of gaol sentences were for periods of one year or more. Most prison sentences were for a period of one to three months.

4.3.3 Probation and Parole

Although fines and imprisonment are the most common sentences for offences, there has been a growing view that harsh punishments are not necessarily effective in reducing offences. The result is a growing move towards imposing custodial sentences, such as probation orders with supervision, that aim to reform the offender and community service orders. In Tasmania, the Probation and Parole Service is responsible for administering these sentences.

The service has a total complement of 54 permanent officers, 34 of whom are field officers. It works closely with officers of the Mental Health Services Commission, the Department of Community Welfare, the Prison Service and the Police and is essentially a community-based operation involving close liaison with families, private relief agencies, public departments concerned with human problems and law enforcement. While there is a significant component of welfare work involved, the Service conducts over 200 prosecutions annually against persons failing to discharge satisfactorily, the conditions and obligations set down in their Supervision or Community Service Orders.

During 1987-88, 2261 persons (1984 males and 277 females), were subject to supervision orders. The majority of supervisions were either community service orders (43 per cent) or single probation orders (41.2 per cent). Supervised parole accounted for 7.4 per cent of cases. Fiftyone per cent of female supervisions related to single probation orders, while 32 per cent related to community service orders. The majority of male supervisions, on the other hand related to community service orders (44.6 per cent) with single probation orders accounting for 39.9 per cent. Almost 70 per cent of all orders relate to persons under 25 years of age.

For the year 1988-89 the Service prepared 1390 court reports and 71 pre-release reports for the Parole Board.

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PUBLIC FINANCE

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Chapter 5

PUBLIC FINANCE

With Australia politically organised as a Federation, the collection of public revenue and the expenditure of public money are undertaken by three spheres of government: Commonwealth, State governments and instrumentalities and local government authorities.

In 1987-88 total current and capital expenditure, by State and local government in Tasmania, was \$1 888.1 million, five per cent above

5.1 STATE AND LOCAL GOVERNMENT EXPENDITURE, TASMANIA (\$ million)

Expenditure item	1985-86 r	1986-87	1987-88 p
Current expenditure -			
General government			
final consumption			
expenditure	852.7	887.7	954.8
Interest payments	296.5	334.0	363.1
Subsidies paid	41.1	43.1	44.1
Current grants	47.9	59.0	69.7
Other	20.1	25.4	27.9
Total	1 258.3	1 349.1	1 459.6
Capital expenditure -			
Expenditure on new			
fixed assets	451.0	429.0	421.7
Expenditure on	431.0	727.0	421.7
second-hand			
fixed assets	- 10.5	- 12.1	- 18.9
Increase in stocks	2.5	1.6	1.2
Expenditure on land			1.7
and intangible asset	ts 3.0	- 0.1	0.8
Capital grants	0.8	0.7	0.9
Advances paid	27.0	27.7	22.8
Total	473.7	446.9	428.5
Total current and			
capital outlays	1 732.0	1 796.0	1 888.1



The State Government spent \$247.7 million in 1987-88 on health services. Photo: Don Stephens

that of the previous year. Fifty-one per cent of this total was outlaid on the provision of goods and services such as health, education, and public order and safety. Of the remaining outlays, expenditure on new fixed assets accounted for 22 per cent of the total with interest payments accounting for 19 per cent.

There are three major sources of funding for State and local government outlays - revenue, grants, and financing transactions (for example, borrowings and reductions in investments and currency holdings).

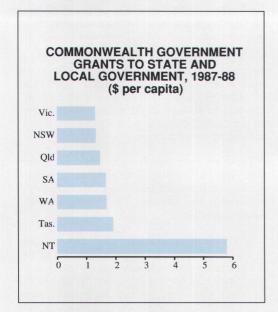
In 1987-88 Commonwealth Government grants continued to be the major source of funds (52 per cent of revenue and grants) for Tasmanian State and local government income with the other significant sources being taxes, fees

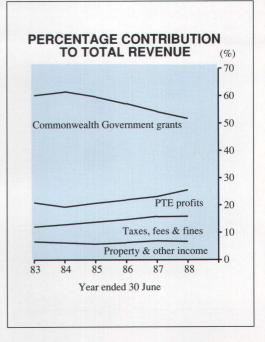
5.2 STATE AND	LOCAL GOVERNMENT INCOME, TASMANIA
	(\$ million)

Income item	1985-86 r	1986-87	1987-88 p
Revenue and grants received -			
Taxes, fees and fines	317.3	365.0	426.8
Net operating surpluses of public trading enterprises	212.1	248.8	266.2
Property income	87.4	104.2	107.1
Other revenue	2.8	4.0	4.2
Grants from the Commonwealth Government	823.4	854.6	866.1
Total	1 442.9	1 576.6	1 670.4
Financing transactions -			
Advances from the Commonwealth Government	53.3	36.5	18.8
Net borrowing	195.3	233.4	129.5
Decrease in investments	4.4	- 10.7	- 14.1
Decrease in currency and deposits	- 3.9	- 84.1	- 1.6
Increase in provisions	32.2	40.0	57.0
Other	7.8	4.4	28.1
Total financing transactions	289.2	219.4	217.7

and fines (26 per cent) and net operating surpluses of public trading enterprises (16 per cent). Of all the States and the Northern Territory, Tasmania was second only to the Northern Territory (80 per cent of revenue and grants) in its reliance on Commonwealth grants as a major source of funds. NSW and Victoria were the least dependent on Commonwealth grants (42 per cent of revenue and grants for both States) with the average for all States and the Northern Territory being 45 per cent.

Whilst the percentage contribution of Commonwealth Government grants to revenue fell by five per cent during the period 1985-86 to 1987-88, the contributions from taxes, fees and fines rose by four per cent during the same period. Operating surpluses from public trading enterprises remained relatively static during the period 1985-86 to 1987-88.





5.1 STATE GOVERNMENT FINANCE

State Government financial transactions are split between the general government sector and public trading enterprises. The general government sector provides goods and services (for example health, education, and law and order) free of charge or at a cost which is significantly below their cost of production. Public trading enterprises aim to recover all or most of their operating costs.

5.1.1 General Government

The major areas of current and capital outlay showed little change as a percentage of total outlays during the period 1985-86 to 1987-88. Final consumption expenditure (59 per cent of total outlays), interest payments (13 per cent of total outlays) and expenditure on new fixed assets (12 per cent of total outlays) continued to account for the majority of funds outlaid on current and capital expenditure in 1987-88.

The major source of funds for the general government sector is Commonwealth Government grants (62 per cent of all revenue and grants received in 1987-88) with taxes, fees and fines being the other major sources of funds (25 per cent in 1987-88).

5.3 GENERAL GOVERNMENT EXPENDITURE, TASMANIA (\$ million)

Expenditure item	1985-86 r	1986-87	1987-88 p
Current expenditure -			
Final consumption			
expenditure	787	817	876
Interest payments	165	179	188
Subsidies paid	41	43	44
Personal benefit			
payments	20	25	27
Current grants	73	84	95
Total	1 086	1 149	1 231
Capital expenditure -			
Expenditure on -			
new fixed assets	175	176	181
second-hand fixed			
assets	- 2	- 2	- 3
land and intangible			
assets	3	1	1
Capital grants to -			
public trading			
enterprises	48	45	30
local government	12	10	9
other sectors	1	1	1
Advances to -			
public trading			
enterprises	- 4	15	14
local government	2	2	2
other sectors	24	23	21
Total	258	270	256
Total current and			
capital outlays	1 344	1 419	1 487

5.4 GENERAL GOVERNMENT INCOME, TASMANIA (\$ million)

Income item	1985-86 r	1986-87	1987-88 p
Revenue and grants received -			
Taxes, fees and fines	254	295	349
Income from public trading enterprises	5	8	9
Income from State public financial enterprises	3	2	2
Interest -			
Public trading enterprises	84	82	84
Other sectors	29	35	38
Other property income and other revenue	39	27	38
Grants received	820	851	862
Total	1 232	1 301	1 383
Financing transactions -			
Net advances received	53	36	19
Net domestic borrowing	43	106	78
Increase in provisions			
Other	15	- 26	6
Total financing transactions	112	117	103

Even though grants are the main revenue item for the general government sector, their percentage contribution to total income fell significantly during the period 1985-86 to 1987-88 (67 per cent in 1985-86 to 62 per cent in 1987-88). This shortfall was made up primarily from increased tax collections (21 per cent of total revenue and grants in 1985-86 compared with 25 per cent of total revenue and grants in 1987-88).

Current Expenditure

Government expenditure on the provision of goods and services (known as final consumption expenditure) comprises current expenditure on wages, salaries and supplements, and goods and services other than fixed assets and stocks. Fees, and other charges for goods and services rendered are offset against purchases.

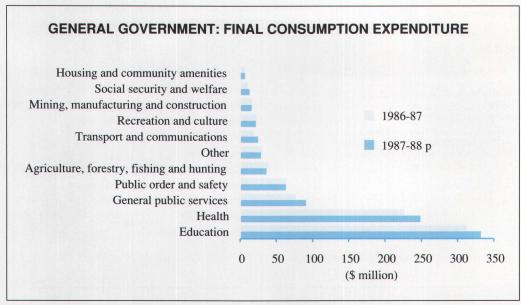
In 1987-88 education and health continued to be the largest areas of current expenditure, accounting for 38 per cent and 28 per cent respectively (38 per cent and 28 per cent in 1986-87) of total current expenditure for the year. With the exception of general public services, the distribution of current expenditure remained relatively static during the period 1985-86 to 1987-88. Although expenditure on general public services (costs associated with legislative and executive branches of government, superannuation payments etc.) rose significantly between 1986-87 and 1987-88 there was no particular area of expenditure which made a significant contribution to the increase.

5.5 GENERAL GOVERNMENT: FINAL CONSUMPTION EXPENDITURE (\$ million)

Expenditure item	1985-86 r	1986-87	1987-88 p
General public services	88.5	75.8	90.2
Public order and safety	61.2	63.5	62.3
Education -			
Primary and secondary	168.8	190.1	200.3
Tertiary	83.7	84.4	97.6
Other	48.7	37.9	33.4
Health	199.9	226.0	247.7
Social security and			
welfare	10.7	10.3	12.7
Housing and community			
amenities	6.9	5.7	6.0
Recreation and culture	19.6	21.6	21.2
Agriculture, forestry,			
fishing and hunting	40.5	38.3	36.0
Mining, manufacturing			
and construction	14.1	15.9	15.5
Transport and			
communications	19.8	18.3	24.5
Other	24.5	29.5	28.3
Total	786.9	817.4	875.8

Capital Expenditure

In the general government sector the major areas of expenditure on new fixed assets in 1987-88 were transport and communications (35 per cent of total expenditure), health (15 per cent of total expenditure) and education (15 per cent of total expenditure).



Of the \$73.6 million spent on transport and communications in 1987-88, \$72.6 million was spent on road transport (including \$.9 million on Hobart's second bridge) with the balance being spent on water transport.

Almost all of the capital expenditure on education was devoted to the extension of facilities at existing schools and colleges with some of the more significant outlays being for the Burnie Technical College (\$4.9 million), Nurse Training Centre at the Newnham Campus of the TSIT (\$4.1 million) and the Alanvale College (\$2.0 million).

Of the \$31.4 million capital expenditure on health, the major areas of expenditure were the Launceston General Hospital (\$18.4 million) and the Mersey General Hospital (\$3.4 million).

Of the remaining sectors the only one to show a significant increase in capital expenditure during 1987-88 was general public services. There was no one area of expenditure which made a significant contribution to the increase, it being more the result of a return to normal levels of expenditure after an abnormally low outlay in 1986-87.

5.6 GENERAL GOVERNMENT: CAPITAL EXPENDITURE (\$ million)

Expenditure item	1985-86 r	1986-87	1987-88 р
Transport and			
communications	84.6	82.0	73.6
Health	8.1	19.4	31.4
Education -			
Primary and secondary	26.8	18.1	14.4
Tertiary	8.2	11.5	14.8
Other	3.0	4.3	1.6
General public services	12.7	5.5	14.7
Public order and safety	7.6	13.1	8.3
Social security and			
welfare	0.5	0.8	1.1
Housing and community			
services	17.8	12.9	13.4
Recreation and culture	17.8	20.3	13.2
Electricity and other			
energy	6.7	0.8	0.1
Agriculture, forestry,			
fishing and hunting	11.9	10.2	10.0
Mining, manufacturing			
and construction	3.5	7.3	13.4
Other	4.5	3.9	1.5
Total	213.7	210.1	211.6

5.1.2. Public Trading Enterprises

The major difference between public trading enterprises and the general government sector is the degree to which public trading enterprises are able to fund current and capital outlays from their own revenue sources. In 1987-88 government grants funded only seven per cent of total outlays for public trading enterprises (compared with 52 per cent of outlays for the general government sector) whereas revenue funded 65 per cent (35 per cent for general government). Of the remainder, 23 per cent was funded primarily by domestic borrowings.

Major Public Trading Enterprises - Tasmania

Housing Department Cressy-Longford Irrigation Scheme The Government Printer Hydro-Electric Commission Southern Regional Cemetery Trust **Burnie Port Authority** Marine Board of Circular Head Port of Devonport Authority Marine Board of Flinders Marine Board of Hobart The Marine Board of King Island Port of Launceston Authority Metropolitan Transport Trust Hobart Regional Water Board North Esk Regional Water Supply North-West Regional Water Authority Prosser River Water Scheme The Public Trustee Stanley Cool Stores Board Tasmanian Grain Elevators Board Herd Improvement Board of Tasmania Tasmanian Museum and Art Gallery Tasmanian Totalisator Agency Board Transport Tasmania West Tamar Water Supply Western Creek and Dale Brook Improvement Scheme

During the period 1986-87 to 1987-88 sufficient revenue was generated to meet current outlays with borrowings being used primarily to fund capital expenditure on new fixed assets.

The largest public trading enterprise in Tasmania is the Hydro-Electric Commission. In 1987-88, 70 per cent of the \$171.4 million spent on asset acquisition for public trading enterprises was for electricity and other energy production. Of the \$119.6 million spent by the Hydro-Electric Commission, \$71.8 million was spent on the creation of new power developments: \$42.5 million on the King River power development and \$29.3 million on the Anthony power development. Of the remaining \$47.8

million some of the more significant outlays included extensions to the distribution system (\$28.8 million), sundry buildings (\$12.0 million), Gordon River system (\$6.6 million) and stores and general plant (\$5.5 million).

5.7 PUBLIC TRADING ENTERPRISES: EXPENDITURE AND INCOME, TASMANIA (\$ million)

Item	1986-87	1987-88 p
Current expenditure -		
Interest payments	227	248
Income transferred to general		
government	8	9
Total	235	257
Capital expenditure -		
Expenditure on new		
fixed assets	200	183
Expenditure on second-hand		
fixed assets	-8	-14
Increase in stocks	1	1
Capital transfer payments	-5	1
Advances to local government		
Advances to other sectors Other	5	2
Otner	-1	-1
Total	191	172
Total current and capital		
expenditure	426	429
Revenue and grants received -		
Net operating surpluses	228	243
Interest received	37	36
Other property income and	3,	400
other revenue		
Grants received	45	30
Total	311	309
Financing transactions -		
Net advances received	15	14
Net domestic borrowing	119	100
Net borrowing from abroad	-4	-67
Increase in provisions	39	56
Other financing transactions	-53	18
Total	116	120
Deficit (financing transactions	P SPC	
less increase in provisions)	77	64

Capital funds allocated to housing fell in 1987-88, housing and community development down \$7.2 million and water supply down \$4.8 million. Capital expenditure on water transport fell in 1987-88 primarily because of a decrease (\$4.2 million after allowing for depreciation) in the value of the T T Line's fixed assets between 1986-87 and 1987-88.

The larger than normal expenditure on agriculture, forestry, fishing and hunting in 1985-86 was due to the construction of the Craigbourne Dam (\$7.1 million in 1985-86). In other transport and communication expenditure, the Port of Devonport Authority spent \$5 million on airport acquisition (\$2 million in 1986-87) in 1985-86.

5.8 PUBLIC TRADING ENTERPRISES: CAPITAL EXPENDITURE (\$ million)

Expenditure item	1985-86 r	1986-87	1987-88 p
Housing and community	y		
services -			
Housing and comm-			
unity development	37.2	42.8	35.6
Water supply	4.5	7.2	2.4
Recreation and culture	0.7	1.9	1.9
Electricity and other			
energy	159.5	125.5	119.6
Agriculture, forestry,			
fishing and hunting	7.2	3.0	1.0
Transport and			
communications -			
Road transport	4.0	4.7	6.3
Water transport	9.3	8.5	5.2
Other	5.4	2.3	- 1.0
Other	0.9	0.9	0.3
Total	228.7	196.9	171.4

5.2 COMMONWEALTH-STATE FINANCIAL RELATIONS

The financial relations between the Commonwealth and the State fall into three major categories:

- financial assistance from the Commonwealth budget as general purpose or specific purpose payments, payments for recurrent or capital purposes, and grants or advances;
- Commonwealth borrowings on behalf of the States; and
- the determination, by the Australian Loan Council, of the level of borrowings, by States, that can be undertaken each financial year.

Since Federation, a number of institutions have evolved for the management of Commonwealth-State financial relations.

5.2.1 Premiers' Conference

Although final allocations to the States are made at the discretion of the Commonwealth, the amount of general revenue assistance for the following financial year to each State is subject to negotiation at an annual Premiers' Conference which is usually held in May of each year.

5.2.2 Australian Loan Council

Under the 1927 Financial Agreement, the Australian Loan Council has the responsibility for determining the level of borrowings which the Commonwealth can undertake on behalf of the States. Borrowings by State authorities (semi-government and local government authorities, government-owned companies and trusts) are not strictly subject to the Financial Agreement, although the Loan Council approves the annual borrowing programs of these authorities.

5.2.3 Commonwealth Grants Commission

Under the Commonwealth Grants Commission Act 1973, the Commission is required to investigate any application made by a State or the Northern Territory for financial assistance, to enable that State (or the Northern Territory) to function at a standard similar to that of the other States. In most instances the level of payments made to individual States is based on per capita (that is, a fixed amount per head of population) relativities, which are periodically reviewed by the Commonwealth Grants Commission.

5.9 PER CAPITA RELATIVITIES - FINANCIAL ASSISTANCE GRANTS

State	1986-87 (a)	1987-88 (a)	1988-89 (b)
NSW	1.008	1.008	1.026
Vic.	1.000	1.000	1.000
Old	1.416	1.416	1.218
SA	r 1.397	r 1.397	1.381
WA	r 1.455	r 1.455	1.360
Tas.	1.605	1.605	1.528
NT	n.a.	n.a.	5.042

⁽a) Per capita relativities for the triennium commencing 1985-86. (b) Per capita relativities adopted at the 1988 Premiers'

Conference to apply in 1988-89.

Since 1985-86, payments to Tasmania have declined relatively quickly reflecting adjustments in line with the recommendations of the Commonwealth Grants Commission's Report on Tax Sharing Relativities released in 1985.

To ease the reduction in general revenue assistance and the introduction of new relativities (for the 1988-89 financial year), it was agreed at the 1988 Premiers' Conference that special revenue assistance (an estimated \$16.4 million for Tasmania) would be provided to those governments most affected by these changes.

5.3 LOCAL GOVERNMENT FINANCE

In classifying local government financial transactions it is useful to distinguish between ordinary services and trading activities.

Trading activities are grouped separately because they are operated in a commercial manner, rather than as a 'service' such as parks and gardens. The only activities classified as 'trading activities' are water supply and sewerage. All other activities, such as garbage and waste disposal facilities, roads and foot paths, drainage, health inspection, parks, recreation facilities, gardens, cemeteries, and community centres are classified as ordinary services.



Service activities such as the maintenance of parks is a local government responsibility. Photo: Don Stephens

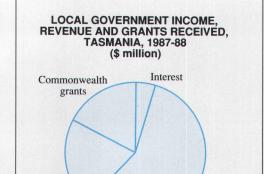
5.3.1 Receipts and Outlays

The principal source of revenue for local government authorities is rates (58 per cent of revenue and grants received in 1987-88). These are direct charges to owners of property, based on the gross annual income the owner might obtain by letting the land and its fixtures. Valuations are carried out by the Land Valuation Branch of the State Lands Department on a rotational basis, with each property being valued every five years.

5.10 TOTAL PROPERTY VALUATION, TASMANIA (\$ million)

Year (at 1 July)	Total capital value	Assessed annual value	Land value
1985	9 511.2	667.0	3 207.6
1986	10 271.9	720.3	3 464.8
1987	11 315.4	801.5	3 818.1
1988	12 591.1	900.2	4 265.0
1989	13 612.5	968.0	4 589.3

Unlike the general State Government sector the local government sector does not rely heavily on Commonwealth Government grants (62 per cent and 17 per cent respectively of total revenue and grants received in 1987-88). In 1987-88 rates and other charges funded 75 per cent of total outlays, with grants and loans being used primarily to fund capital expenditure.



Municipal rates

Other

5.11 LOCAL GOVERNMENT INCOME, TASMANIA, 1987-88 (\$ million)

Income item	Ordinary services	Trading activities	Total
Revenue and grants			
received -			
Municipal rates	73.2	63.3	136.5
Interest	10.7		10.7
Other revenue	36.9	11.6	48.5
Grants from the			
Commonwealth	36.7	4.3	41.0
Total	157.5	79.2	236.7
Financing			
transactions -			
Loans	14.0	8.8	22.8
Other		9.6	9.6
Total	14.0	18.4	32.4

In 1987-88 internal revenue for ordinary services, amounting to \$121 million, funded 97 per cent of total current expenditure while internal revenue for trading activities actually exceeded current expenditure by \$11.6 million.

For both the ordinary services and trading activities sectors of local government, capital expenditure in 1987-88 was devoted entirely to the acquisition of land and fixed assets (87 per cent and 80 per cent respectively of total capital expenditure) and debt redemption (13 per cent and 20 per cent respectively of total capital expenditure).

5.12 LOCAL GOVERNMENT EXPENDITURE, TASMANIA, 1987-88 (\$ million)

Expenditure item	Ordinary services	Trading activities	Total
Current expenditure -			
Goods and services	109.3	51.2	160.5
Interest payments	11.1	11.8	22.9
Levies	2.2		2.2
Other	2.0	0.3	2.3
Total	124.6	63.3	187.9
Capital expenditure -			
Land and fixed assets	43.2	18.2	61.4
Debt redemption	6.5	4.6	11.1
Total	49.7	22.8	72.5

5.4 PUBLIC DEBT

5.4.1 State Government Debt

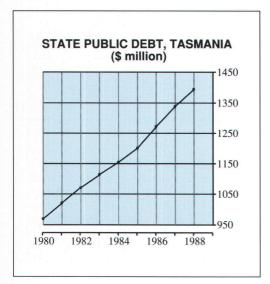
State Government debt is the aggregate of loans, taken out on behalf of the Tasmanian Government, which still have to be redeemed. Under the Financial Agreement of 1927, the Loan Council became the borrowing agent for the States. The redemption and conversion of loans is carried out by the National Debt Sinking Fund Commissioners for, and on behalf of, all of the States under the provisions of the Financial Agreement of 1927.

5.13 STATE PUBLIC DEBT, TASMANIA (\$ million)

At 30 June	Amount (\$ million)	Increase over previous year (%)	Debt per head of mean population (\$) (a)
1984	1 154.5	3.6	2 653
1985	1 200.7	4.0	2 728
1986 r	1 271.6	5.9	2 860
1987	1 338.5	5.3	2 991
1988	1 394.9	4.2	3 114

(a) Mean resident population as at 30 June.

At 30 June 1988 State Government public debt stood at \$1 394.9 million, an increase of 4.2 per cent over the previous year. In addition to the public debt, certain statutory authorities



have raised loans throughout Australia and overseas. The balance of these loans, net of sinking fund balances, at 30 June 1988, was approximately \$1850 million.

During the period 30 June 1984 to 30 June 1988 Tasmania's public debt rose from \$2653 per head of population to \$3114 per head of population, a rise of 17 per cent over the four year period.

5.4.2 Local Government Debt

The principal source of funds used to finance new capital works programs of local government is external borrowing. However, some of the larger authorities do finance a substantial part of such activity from internal reserves and revenue sources. At the end of 1988, total indebtedness of local government authorities was \$203 million. Ninety-one and one half per cent of this debt was owed to financial institutions such as banks and insurance companies.

5.14 LOCAL GOVERNMENT LONG-TERM DEBT, TASMANIA (\$'000)

Details	1986-87	1987-88
Source -		
Commonwealth-State	13 151	15 017
Public subscriptions	646	513
Financial institutions	176 912	185 790
Other	1 574	1 654
Total	192 283	202 975
Purpose -		
Ordinary services	93 545	100 184
Water	21 593	21 566
Sewerage	77 145	81 225
Total	192 283	202 975

LOCAL GOVERNMENT LONG-TERM DEBT, TASMANIA (\$ million)



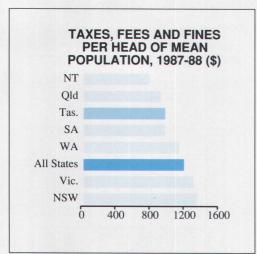
5.5 STATE AND LOCAL GOVERNMENT TAXATION

In 1987-88 taxes, fees and fines for both levels of government in Tasmania, were \$953 per head of mean population. With the exception of the Northern Territory and Queensland, this was the lowest of all the States, New South Wales having the highest level of taxation (\$1324 per head). The average of all the States was \$1175 per head of mean population.

5.15 TAXES, FEES AND FINES PER HEAD OF MEAN POPULATION

State/Territory	1985-86 r	1986-87	1987-88
New South Wales	1 017	1 130	1 324
Victoria	1 031	1 146	1 285
Queensland	699	751	899
South Australia	765	827	958
Western Australia	797	944	1 117
Tasmania	714	816	953
Northern Territory	609	678	769
All States	913	1 014	1 175

Nevertheless, in the two year period ended 1987-88 Tasmania's taxation per head of mean population rose by 33.5 per cent, second only to Western Australia (40.0 per cent). This was well ahead of the all-States' average rise of 28.7 per cent.



The principal source of State taxation is employer-based payroll taxes which accounted for 25 per cent of total State Government tax collections in 1987-88. Other major contributors to State revenue in 1987-88 were franchise taxes on petroleum products, tobacco and liquor (22 per cent), taxes on property (20 per cent excluding municipal rates) and motor vehicle taxes (12 per cent).

5.16 TAXES, FEES AND FINES COLLECTED, TASMANIA (\$ million)

Tax	1986-87	1987-88
Employers' payroll taxes	80.8	87.6
Taxes on property -		
Municipal rates	66.4	73.2
Other	52.7	71.2
Total	199.9	232.0
Taxes on provision of goods		
and services -		
Excises	8.4	8.9
Taxes on gambling	22.6	32.7
Taxes on insurance	11.6	12.8
Total	42.7	54.5
Taxes on use of goods and		
performance of activities -		
Motor vehicle taxes	39.3	42.5
Franchise taxes -		
Petroleum products	36.8	37.3
Tobacco franchise taxes	19.3	25.8
Liquor franchise taxes	9.7	12.5
Other	1.8	3.9
Total	106.9	122.0
Fees and fines	15.5	18.4
Total taxes, fees and fines -	365.0	426.9
State Government	295.1	349.5
Local Government	69.9	77.4

Of the major taxes, taxes on property (exclusive of municipal rates) increased the most (2.1 per cent) as a percentage of total taxes between 1986-87 and 1987-88. Taxes on gambling also increased slightly (1.7 per cent) whereas employers' payroll taxes (2.4 per cent), petroleum products franchise taxes (1.8 per cent) and motor vehicle taxes (1.1 per cent) decreased in terms of their percentage contributions to total State Government revenue.

5.5.1 State Taxation Review *

Following successive reductions in Commonwealth funding over recent years there has been a significant increase in the overall level of State taxation in Tasmania. While some concessions have been granted, existing taxes have been increased and new taxes introduced.

5.17 INTRODUCTION OF STATE TAXES

Year	Tax initiative
1983-84	Introduction of debits duty. Increase in tobacco franchise fees from 12% to 24%. Increase in the payroll tax small businesses deduction. Reduction in the stamp duty applicable to the registration of new motor vehicles.
1984-85	Increase from 5% to 6% in the rate of payroll tax for firms with payrolls over \$5 million (with grant arrangements for Tasmanian firms reducing the effective tax rate to 5%). Increase in tobacco franchise fees from 24% to 35%.
1985-86	Removal of the payroll tax grant arrangements for Tasmanian firms with payrolls over \$5 million increasing their effective rate to 6%. Increase in the payroll tax exemption level and small businesses deduction.
1986-87	Increase in a range of stamp duties including mortgage rates, conveyance rates, minimum duty, etc. Increase in land tax minimums from \$10 to \$25. Increase in liquor licensing fees from 8% to 11%. Increase in petroleum products business franchise fees from 6.5% to 14.75%. Introduction of financial institutions duty. Introduction of electricity consumption levy. Introduction of forest management charge.
1987-88	Increase in tobacco franchise fee from 35% to 50%. Introduction of ambulance service contribution. Introduction of 2% stamp duty on rental business.
1988-89	Increase from 6% to 7% in the rate of payroll tax for firms with payrolls over \$7.5 million. Revised forestry and mining royalty arrangements. Increase in the payroll tax exemption level and small businesses deduction.

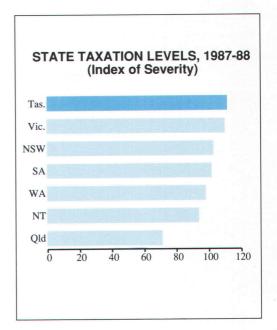
^{*} Taken from a Treasury Department report 'State Taxation Review'.

The stage has been reached where on certain measures Tasmania has the highest State imposed taxation burden of any State. Information provided in the Commonwealth Grants Commission's 1989 Update Report, indicates that while Tasmania ranks third lowest of the States using actual revenue collections per capita as a measure of comparison, using the superior index of severity measure Tasmania has the highest burden of any State in terms of the severity of taxation.

5.18 STATE TAXATION LEVELS 1987-88

		Taxation collections (\$ per capita)		
State	Actual	Std (b)	severity (a)	
NSW	927.22	899.77	103.05	
Vic.	920.18	834.51	110.27	
Old	532.00	745.76	71.34	
WA	804.27	818.84	98.22	
SA	634.60	622.63	101.92	
Tas.	651.10	582.66	111.75	
NT	602.05	640.86	93.94	

- (a) The index of severity is derived by dividing the actual revenue by the standardised revenue and multiplying by 100. This is a generally accepted basis of comparison of severity of taxation between the States.
- (b) Std is the standardised taxation revenue collections and represents the revenue that would be raised by a State from the available tax base if it were to impose taxes at standard rates.



5.19 STATE TAXATION - INDEX OF RELATIVE SEVERITY

State	1984-85	1985-86	1986-87	1987-88
NSW	101.32	104.04	103.87	103.05
Vic.	116.41	115.21	112.11	110.27
Qld	72.33	70.71	69.36	71.34
WA	94.18	89.94	99.47	98.22
SA	97.64	97.22	96.98	101.92
Tas.	94.32	96.03	105.90	111.75
NT	67.14	86.94	87.29	93.94

The steady increase in the severity of taxation in Tasmania relative to other States, reflects the introduction of tax measures over recent years. Moreover, Tasmania's relative tax severity is likely to increase further when figures are released in relation to the 1988-89 year which will reflect the introduction of the 7 per cent payroll tax rate in Tasmania.

There was a substantial increase in the amount collected from Tasmanian taxpayers during 1988-89. Natural growth together with the full year effect of increases introduced in 1988-89 will ensure that State taxation collections will at least remain constant in real terms in 1989-90.

5.6 REFERENCES

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Chapter 6

POPULATION

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Chapter 6

POPULATION

The first sixty years of white settlement saw a fairly rapid population build-up, more than half of whom were, or had been, convicts. Although this rate of increase then diminished, by 1905 - 45 years later - the number of people had doubled. With a birth rate of less than one per cent to 1945, it took another 65 years to double again. At 30 June 1989 the resident population was estimated to be 450 960.

The first human inhabitants of what is now Tasmania arrived about 25 000 years ago, crossing the land bridge that then connected Tasmania to the mainland. Total numbers, before white settlement, have been estimated to have never exceeded 5000.

White settlement began in 1803 to secure British strategic interests against the French. In keeping with the penal nature of the early settlement, most of the population were convicts or government officials. At the census of 1847, just over 50 per cent of the total population of 70 000 people were, or had been, convicts. Less than 20 per cent were free immigrants.

Transportation was abolished in 1853. This, and emigration to Victoria after the discovery of gold there in 1851, at first caused a slump in population growth. The subsequent growth of mainland markets for Tasmanian primary produce, and important tin and gold discoveries in Tasmania in the early 1870s reversed this trend with a return to rapidly increasing population levels. The 15 years between 1861 and 1876 saw the population increase from 90 000 to 105 000. The next fifteen years to 1891 saw the population reach 147 000, an annual rate of increase more than double the previous period.

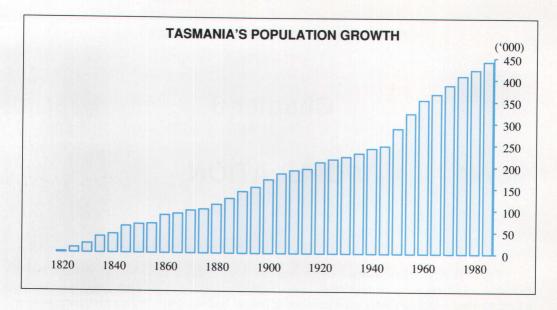
The effects of economic depression in Australia in the 1890s, whilst severe, were eased



At 30 June 1989, Tasmania's resident population was estimated to be 450 960. Photo: The Mercury

somewhat in Tasmania by the silver and copper mining boom on the West Coast. Tasmania's relative prosperity was reflected in a net migration in excess of 4000 per year from 1896 to 1899.

Whilst federation in 1901 meant free access to mainland markets for primary producers, many small manufacturers faced stiff competition from mainland firms. Economic stagnation, exacerbated by the petering out of the West Coast mining boom, was reflected in a drift of people to the mainland. Attracting manufacturing industries through the provision of cheap hydro-electric power came to be seen as a way out of the economic gloom. Whilst partly



successful, this was not wholly sufficient, especially during the economic depression of the late 1920s and 1930s. Rural industries, always important to Tasmania's economic wellbeing, were particularly affected by the depression. In the 35 years between 1900 and 1935, Tasmania's population grew at less than 0.7 per cent per year.

After World War Two, Tasmania shared in the prosperity of the Australian economy. The post-war baby boom and gains from overseas immigration resulted in an annual increase of 1.5 per cent in the 35 years 1945 to 1980, more than double the pre-war rate. Despite this growth, Tasmania still lagged behind the mainland States. In the same period, the Australian rate of growth was two per cent and, as a result, the proportion of the total Australian population living in Tasmania has decreased from 3.4 per cent in 1945 to 2.7 per cent in 1989.

6.1 POPULATION GROWTH

In the period 1972 to 1989, Tasmania's resident population growth was the lowest of all the States, recording a rate which was less than half that of Australia's.

Of the most recent years, only in 1984 and 1985 has the rate of population growth approached that of Australia as a whole. The rate

6.1 POPULATION CHANGE BY STATE, AUSTRALIA, 1972 TO 1989 (year ended 30 June)

	Estimated resident population					
States and	1972	1989 p	Growth			
Territories	('000)	('000)	(%)			
NSW	4 795.1	5 761.9	20.2			
Vic.	3 661.3	4 3 1 5 . 2	17.9			
Qld	1 898.5	2 830.2	49.1			
SA	1 214.6	1 423.3	17.2			
WA	1 082.0	1 591.1	47.1			
Tas.	400.3	451.0	12.7			
NT	92.1	156.1	69.5			
ACT	159.8	2 77.9	73.9			
Australia	13 303.7	16 806.7	26.3			

for the year to 30 June 1989 was 0.56 per cent, approximately one-third the Australian rate.

6.2 POPULATION GROWTH, TASMANIA (year ended 30 June)

	Growth ('000)	Rate (%)	Australian rate (%)
1983	2 960	0.69	1.38
1984	4 955	1.14	1.21
1985	5 068	1.16	1.34
1986	3 645	0.82	1.46
1987	1 468	0.33	1.53
1988	516	0.12	1.69
1989	2 499	0.56	1.62

In the year to 30 June 1989 Tasmania recorded the second lowest rate of population growth of the States and Territories, with only the Northern Territory recording a lower rate.

6.3 RATES OF CHANGE OF MAJOR COMPONENTS OF POPULATION GROWTH, AUSTRALIA, (Year ended 30 June 1989) (%)

States and Territories	Natural increase	Net migration	Total growth
NSW	0.78	0.27	1.06
Vic.	0.74	0.51	1.25
Qld	0.81	2.34	3.15
SA	0.61	0.46	1.07
WA	1.00	2.00	3.00
Tas.	0.72	-0.16	0.56
NT	1.63	-1.45	0.18
ACT	1.16	0.45	1.61
Australia	0.79	0.83	1.62

6.1.1 Natural Increase

Until the year ended 30 June 1987, Tasmania's rate of natural increase closely mirrored Australia's, which, in line with most of the developed world, has been gradually falling. The two years 1987-88 and 1988-89 however, have seen the Tasmanian rate fall below that of Australia. Whether this signifies the establishment of a long term trend is yet to be seen.

6.4 NATURAL INCREASE, TASMANIA (year ended 30 June)

Year	Births ('000)	Deaths ('000)	Natural increase ('000)	Rate (%)	Australian rate (%)
1983	6 994	3 387	3 607	0.84	0.85
1984	7 106	3 441	3 665	0.85	0.84
1985	7 2 3 2	3 654	3 578	0.82	0.82
1986	6 974	3 656	3 318	0.75	0.78
1987	6 9 7 6	3 462	3 5 1 4	0.79	0.79
1988	6 704	3 646	3 058	0.68	0.77
1989	6 890	3 674	3 216	0.72	0.79

6.1.2 Migration

Population loss through migration has been the principal reason for Tasmania's comparatively low population growth.

Overseas Migration

The pattern of overseas migration to Tasmania in recent years is one of continuing low levels. In the year ended 30 June 1989, the rate of Tasmanian population increase from net overseas migration was estimated to be 0.13 per cent, about one-sixth the Australian rate of 0.83 per cent.

6.5 NET ESTIMATED OVERSEAS MIGRATION, TASMANIA

		Ta	smania		Australia
Year		Depart			
ended	Arrivals	ures	Net	Rate	Rate
30 June	('000)	('000)	('000)	(%)	(%)
1983	1 918	1 275	611	0.14	0.48
1984	1 853	1 202	659	0.15	0.32
1985	1 964	1 255	769	0.18	0.47
1986	2 111	1 282	890	0.20	0.64
1987	1 992	1 282	795	0.18	0.74
1988	2 187	1 358	892	0.20	0.92
1989	1 998	1 406	592	0.13	0.83

Interstate Migration

However, the most significant factor contributing to Tasmania's low population growth is the overall loss through migration to other States. This is shown as a *negative* net migration gain. The net loss of 3434 persons during 1987-88 was the highest yearly loss since the troop movements of 1941. The net loss of 1309 persons in 1988-89, although still a negative figure, represents a significant improvement on 1987-88 and a reversal in the trend shown in the three years earlier.

6.6 NET ESTIMATED INTERSTATE MIGRATION, TASMANIA

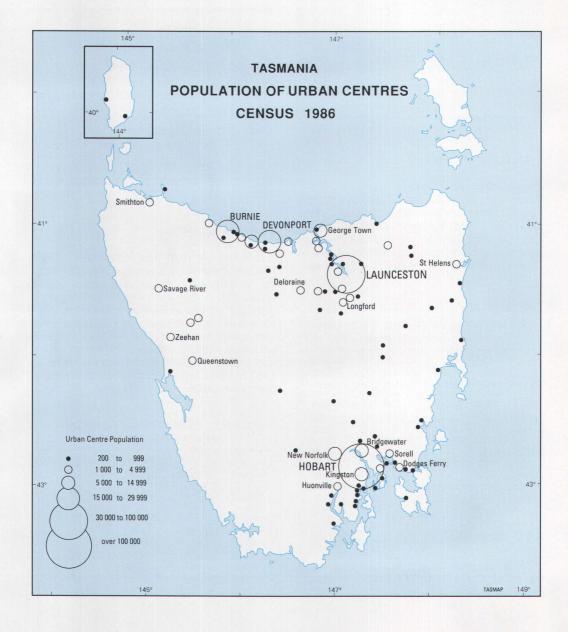
Year ended 30 June	Arrivals	Departures	Net ('000)	Rate (%)
1983	7 687	8 901	-1 214	-0.28
1984	8 334	7 639	695	0.16
1985	9 185	8 408	777	0.18
1986	9 664	9 802	-138	-0.03
1987	8 776	11 617	-2 841	-0.64
1988	9 7 1 5	13 149	-3 434	-0.77
1989	11 847	13 156	-1 309	-0.29

6.2 POPULATION DISTRIBUTION

At 30 June 1989 the resident population of Tasmania was estimated at 450 960. On a regional basis, the Greater Hobart - Southern Region accounted for almost 48 per cent of the population, the Northern Region almost 28 per cent and the Mersey-Lyell Region just over 24 per cent.

Westbury, Portland, Kingborough and Sorell were the local government areas which have had the largest percentage increase in population since 1986; Westbury, with an increase of 930, recorded the largest actual increase. Zeehan, down 960, King Island, down 270 and Lyell, down 270, recorded the heaviest losses in population.

In terms of population distribution, Tasmania is the most decentralised State with nearly 60 per cent of the population living outside of the capital city statistical division.



6.7 ESTIMATED RESIDENT POPULATION IN LOCAL GOVERNMENT AREAS, TASMANIA (at 30 June)

Local government area	1986	1989	Annual average rate of change 1986 to 1989 (%)	Proportion of State (%)
Greater Hobart-Southern Region	211 950	215 040	0.5	47.7
Hobart	47 940	47 280	-0.5	10.5
Glenorchy	41 820	41 780	0.0	9.3
Clarence	46 740	47 150	0.3	10.5
Brighton	11 940	12 500	1.5	2.8
Kingborough	21 080	22 790	2.6	5.1
New Norfolk	10 050	10 020	-0.1	2.2
Sorell	7 000	. 7 550	2.6	1.7
Bothwell	790	780	-0.4	0.2
Bruny	460	490	2.1	0.1
Esperance	3 200	3 250	0.5	0.7
Glamorgan	1 740	1 780	0.8	0.4
Green Ponds	1 100	1 130	0.9	0.3
Hamilton	2 500	2 400	-1.4	0.5
Huon	5 220	5 470	1.6	1.2
Oatlands	2 010	1 970	-0.7	0.4
Port Cygnet	2 790	2 940	1.8	0.7
Richmond	2 150	2 210	0.9	0.5
Spring Bay	2 020	2 060	0.7	0.5
Tasman	1 390	1 490	2.3	0.3
Northern Region	123 850	125 810	0.5	27.9
Launceston	63 210	63 150	0.0	14.0
Beaconsfield	15 840	16 550	1.5	3.7
Deloraine	5 460	5 540	0.5	1.2
Evandale	2 210	2 290	1.2	0.5
George Town	7 120	6 990	-0.6	1.6
Longford	6 400	6 600	1.0	1.5
Westbury	8 020	8 950	3.7	2.0
Campbell Town	1 460	1 390	-1.6	0.3
Fingal	2 880	2 870	-0.1	0.6
Flinders	1 050	1 010	-1.3	0.2
Portland	2 860	3 130	3.1	0.7
Ringarooma	2 270	2 220	-0.7	0.5
Ross	500	470	-2.0	0.1
Scottsdale	4 560	4 650	0.7	1.0
Mersey-Lyell Region	110 670	110 110	-0.2	24.4
Burnie	21 070	21 110	0.1	4.7
Circular Head	8 020	8 000	-0.1	1.8
Devonport	25 110	25 370	0.3	5.6
Kentish	4 710	4 800	0.6	1.1
King Island	2 050	1 780	-4.6	0.4
Latrobe	6 220	6 460	1.3	1.4
Penguin	5 450	5 510	0.4	1.2
Ulverstone	14 260	14 490	0.5	3.2
Wynyard	12 560	12 700	0.3	2.8
Lyell	3 940	3 670	-2.3	0.8
Strahan	520	530	1.0	0.1
Waratah	1 630	1 520	-2.3	0.3
Zeehan	5 130	4 170	-6.7	0.9
Total Tasmania	446 470	450 960	0.3	100.0

Mobility

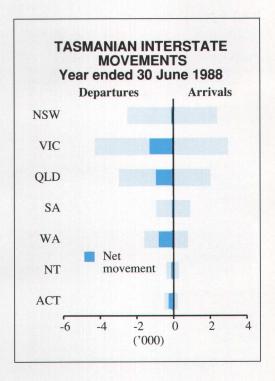
At the 1986 Census, 84 per cent of Tasmanian residents were living in the same dwelling as one year earlier, and 59 per cent were living in the same dwelling as five years earlier. These figures are notably similar to those for Australia.

Of those whose address was different one year earlier, 86 per cent reported that the address was in Tasmania. For those whose address was different five years earlier, this figure was 85 per cent.

For both periods the main destination of movements out of Tasmania and the source of movements to Tasmania was Victoria. Queensland gained most from *net* movements in the five year period and came a close second to Western Australia in the one year period. For both periods New South Wales provided the largest *net* gain for Tasmania.

Although Census data are useful to gain a measure of relative mobility, as the reference dates are merely two points in time, no information can be obtained for any movements in the intervening period. A measure of *total* interstate movements can be obtained from the estimates of internal migration used to produce intercensal population estimates. For the year ended 30 June 1988 these estimates confirm the position of Victoria as the main source *and* destination of permanent and long-term Tasmanian interstate movements. The relatively large number of departures to that State also resulted in the

largest *net* loss to Tasmania, of all the States and Territories. States which followed were Queensland and Western Australia respectively.



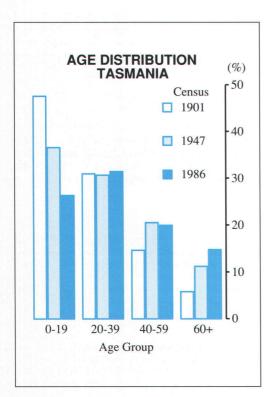
6.8 INTERSTATE MOBILITY, TASMANIA Census 1986 ('000)

	1981 to 1986				1985 to 1986	
	Residing 30 June 1981 in Tasmania/ elsewhere 30 June 1986.	Residing 30 June 1986 in Tasmania/ elsewhere 30 June 1981.	Net gain	Residing 30 June 1985 in Tasmania/ elsewhere 30 June 1986.	Residing 30 June 1986 in Tasmania/ elsewhere 30 June 1985.	Net gain
NSW	5.2	6.5	1.2	2.0	2.4	0.4
Vic.	7.4	7.3	- 0.2	2.7	2.9	0.2
Qld	6.4	4.0	- 2.3	2.1	1.9	- 0.3
SA	2.2	2.2	0.0	0.9	0.9	0.0
WA	2.7	2.1	- 0.6	1.1	0.8	- 0.3
NT	0.7	0.6	- 0.1	0.2	0.3	0.0
ACT	1.0	0.8	- 0.2	0.4	0.3	- 0.1
Total	25.7	23.5	- 2.2	9.5	9.4	- 0.1

6.3 CHARACTERISTICS OF TASMANIANS

6.3.1 Age

Tasmania's population continued to age as did Australia's. In 1988, the median age (the age where one half of the population is younger and the other half older) of Tasmania's population was 30.4 years, 0.9 years older than in 1986 and 1.6 years older than in 1981. By comparison, the median age of all Australians in 1988 was 30.6 years.



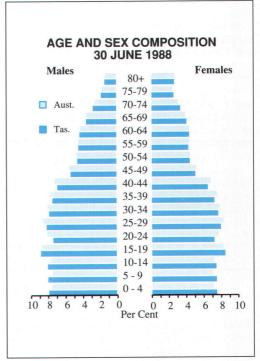
The age distribution of Tasmania's population has also changed markedly over time. In 1901, 48 per cent of the population was aged below 20, compared with 33 per cent in 1986.

6.3.2 Sex

In 1988 the Tasmanian population contained an estimated 3365 more females than males. This excess of females is not distributed evenly,

6.9 SEX BY AGE DISTRIBUTION, TASMANIA, (30 June 1988 p)

Age group	Males (number)	Females (number)	Sex ratio (males per100 females)
0-4	17 712	17 210	102.92
5-14	35 901	34 106	105.26
15-24	36 362	35 911	101.26
25-34	35 943	35 887	100.16
35-44	32 306	31 521	102.49
45-64	42 495	41 787	101.69
65 and over	21 827	29 487	74.02
All ages	222 546	225 911	98.51



however, as there is a much higher number of females in ages over 60 years. In every other age group males outnumbered females.

6.3.3 Marital Status

At the Census of 30 June 1986, proportionally more Tasmanians than Australians in total were married and fewer had never been married.

	30 JUNE 1986

Status		Australia			
	Males	Females	Persons	(%)	(%)
Never married -					
Aged 15 years and over	49 125	38 603	87 728	26.6	28.4
Now married	98 080	97 990	196 070	59.4	57.8
Separated	3 964	4 598	8 562	2.6	2.6
Divorced	6 849	8 365	15 214	4.6	4.7
Widowed	4 150	18 091	22 241	6.7	6.5
Total	162 168	167 647	329 815	100.0	100.0

Other marital status characteristics were very similar.

Marital status of Tasmanians has changed considerably over the last 50 or so years. In 1933 just 0.3 per cent of people over the age of

6.11. MARITAL STATUS, TASMANIA
(%)

	Census					
Status	1933	1947	1961	1986		
Never married -						
Aged 15 yrs & over	38.5	29.5	25.6	26.6		
Married	540	60.9	65.7	59.4		
Married - separated	54.3	1.8	1.8	2.6		
Divorced	0.3	0.7	1.0	4.6		
Widowed	6.9	7.1	6.7	6.7		

15 were divorced compared with 4.6 per cent in 1986. The proportion of persons married in 1933, including those who were married but separated, as the distinction was not made then, was over 54 per cent. Directly after World War 2 it rose to 63 per cent and in 1986 was 62 per cent.

6.3.4 Aboriginals

In 1986, there were 6716 Aboriginals in Tasmania, comprising 1.5 per cent of the Tasmanian population. This was the same proportion as comprising the total Australian population.

In Tasmania, 47.9 per cent of aboriginals aged 15 years and over were employed, whilst 12.8 per cent were unemployed. Nationally, only 31.3 per cent were employed whilst 17.1 per cent were unemployed.

6.3.5 Families

Couple families formed the majority of all living arrangements. Almost 86 per cent of Tasmanian families were of this type, a figure which is virtually identical to Australia's. One parent families comprised over eight per cent, a

6.12 FAMILY STRUCTURE, 30 JUNE 1986

	Tasmo	ania	Australia
Family type	Number	(%)	(%)
Couple families -			
Couple only	36 126	30.6	30.6
With dependant children With dependant children	42 485	36.0	35.5
and adult family members	s 10 101	8.5	9.1
With adult family members	12 638	10.7	10.8
Total couple families	101 350	85.8	86.0
One parent families -			
With dependant children With dependant children	7 682	6.5	5.9
and adult family members	s 2 134	1.8	1.9
Total one parent familie	s 9816	8.3	7.8
Related adults	6 987	5.9	6.2
Total families	118 153	100.0	100.0

slightly larger proportion than of total Australian families.

6.13 PROPORTION OF OVERSEAS BORN PERSONS, AUSTRALIA, CENSUS 1986

Ctatas and		Overseas born		orn
States and Territories	Australian born	UK	Other	Total
NSW	79.2	5.8	15.1	20.8
Vic.	77.2	5.9	16.8	22.8
Qld	85.0	5.9	9.1	15.0
SA	77.7	10.6	11.7	22.3
WA	72.5	13.3	14.2	27.5
Tas.	89.9	5.2	4.9	10.1
NT	81.6	5.6	12.8	18.4
ACT	76.7	7.5	15.8	23.3
Australia	79.2	6.9	13.9	20.8

6.3.6 Country of Birth

In relative terms fewer overseas migrants make Tasmania their home than any other State or Territory. In 1986, 89.9 per cent of Tasmanians were born in Australia, more than 10 per cent greater than the national figure of 79.2 per cent.

Of Tasmania's overseas born population, over one half have come from the United Kingdom

6.14 OVERSEAS BORN PERSONS TASMANIA, CENSUS 1986

		Percentag overseas b		
Birthplace	Persons (number)	Tasmania (%)	Australia (%)	
United Kingdom	22 660	51.3	33.4	
Netherlands	2 973	6.7	2.9	
New Zealand	2 763	6.3	6.5	
Germany	1 982	4.5	3.5	
Poland	1 301	2.9	2.1	
Italy	1 259	2.9	8.1	
Yugoslavia	769	1.7	4.6	
Greece	744	1.7	4.2	
United States	725	1.6	1.3	
Malaysia	612	1.4	1.5	
Other	8 381	19.0	31.9	
Total Overseas I	Born 44 169	100.0	100.0	

which is a higher proportion than for any other State. New Zealand apart, the countries which then predominate are northern European, reflecting the pattern of immediate postwar immigration to the State. This is somewhat different to the total Australian experience where southern European countries predominate as countries of origin.

At June 1986 only a small proportion of Europeans in Tasmania had been resident for less than five years, a figure which is significantly less than that for Australia. A much higher figure was recorded for those from East and South East Asian countries, where almost half had been resident for less than five years. Of all overseas born persons in Tasmania, over 10 per cent had been resident in Australia for less than five years compared to the total Australia figure of over 14 per cent.

6.3.7 Ancestry

Of the 93 per cent of Tasmanians who answered the 1986 Census question relating to ancestry, 67 per cent indicated some Angloceltic descent. A further 21 per cent indicated

6.15 ANCESTRY, CENSUS 1986

	Tasn	ania	Australia
Ancestry (a)	('000)	(%)	(%)
Australian	86.6	21.4	20.0
Australian-Anglo-celtic	6.7	1.7	2.1
Australian-Other	2.4	0.6	1.3
English	216.5	53.5	38.3
Irish	7.5	1.9	2.6
Scottish	7.8	1.9	2.3
Other Anglo-celtic	25.1	6.2	6.9
Anglo-celtic-Other	7.8	1.9	4.1
Aboriginal/			
Torres Strait Islander (b)	4.3	1.1	1.4
Dutch	5.1	1.3	1.0
German	3.8	0.9	1.6
Italian	2.2	0.6	3.5
Polish	2.1	0.5	0.7
Greek	1.6	0.4	2.0
Chinese	1.2	0.3	1.2
Other	23.9	5.9	11.0
Total	404.7	100.0	100.0

⁽a) Interpretation of the ancestry data should be done with caution. As the census question relied on self-perception, some people may have indicated the origins of several previous generations, while others may have considered their own origin or birthplace.

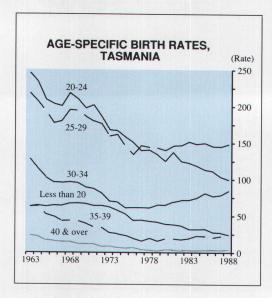
⁽b) Includes all cases where Aboriginal or Torres Strait Islander were stated as either the first or second ancestry.

Australian only descent. Just over one per cent indicated some Aboriginal-Torres Strait Islander ancestry.

6.4 FERTILITY

The late 1950s and early 1960s was a period of peak fertility in the post-war era before a decline in the mid 1960s, which continued steadily through the 1970s. The trend since 1980 indicates that a period of stability may have been reached, but at a level only a little over 50 per cent of the 1961 rate.

Whereas prior to 1977 the most fertile age group was 20-24, this is now the 25-29 age group. The fertility rate of the under 20 and 20-24 age groups have been declining steadily during the 1970s and 80s, while that of the 25-29 and 30-34 age groups have risen slightly. Several factors have contributed to these trends including later marriage and an increasing period between marriage and the birth of the first child.



Since the early 1960s the median age for spinster brides has increased from about 21 years to 23.5 years in 1988. In the mid 1960s the median duration between marriage and the birth of the first child was about 12 months. This increased

6.16 MEDIAN AGE OF BRIDES (years)

Year	Spinster	All Brides
1971	20.5	20.8
1981	21.6	22.6
1987	23.1	24.6
1988	23.5	24.9

during the 1970s and in 1988 it was approaching 3 years.

The fertility rate, as measured by the net reproduction rate, is falling and since the early 1970s has been below replacement level. Except for 1986, the Tasmanian rate has generally been higher than the national rate.

6.17 NET REPRODUCTION RATES, TASMANIA AND AUSTRALIA

Year	Tasmania	Australia
1971	1.399	1.362
1981	0.995	0.925
1985	0.968	0.924
1986	0.889	0.895
1987	0.910	0.883
1988	0.935	0.881

6.5 LIFE EXPECTANCY AND MORTALITY

6.5.1 Life Expectancy

A measure often used to indicate changes in the health status of a community or to make comparisons between communities is life expectancy. This is the number of years that a person can, on average, expect to live past his present age, and is based on death rates of the population.

Reflecting the high infant mortality rates and death rates during the early years of life, life expectancy at age 0 in the early part of this century was less than at age 5. Improvements in hygiene and health care substantially reducing

infant and early age death rates, has increased life expectancy at age 0 for both males and females. Expectation of life at age 0 for males has improved by 17.9 years since the beginning of the century and for females by 20.7 years.

At higher ages, the changes were minor until the 1970s. In 1970-72 life expectancy for males aged 60 was 15.4 years compared with 14.3 years in the first decade of this century and for females 19.7 compared with 16.2 years. Since 1970-72 there has been a significant increase in life expectancy of 60 year olds; for males it has increased by 3.0 to 18.4 in 1988 and for females by 3.1 years to 22.8 years. Much of this improvement can be related to prevention and advances in treatment of diseases associated with the circulatory system such as heart attacks and strokes.

6.18 LIFE EXPECTANCY, AUSTRALIA (years)

	190	01-1910	1988	
Age (years)	Males	Females	Males	Females
0	55.2	58.8	73.1	79.5
5	57.9	58.6	68.9	75.2
10	53.5	56.0	64.0	70.3
20	44.7	47.5	54.4	60.4
40	28.6	31.5	35.8	41.0
60	14.3	16.2	18.4	22.8
70	8.7	10.0	11.6	14.9

The increase in life expectancy means there is an increasing number of elderly people in the population, many of whom will be needing support services.

At all ages females have a higher life expectancy than males.

6.5.2 Mortality

The 1970s and 1980s have been years of considerable improvement in mortality rates, particularly among the higher age groups, and infants. Improvements in age-specific death rates have been most marked among the age groups over 60 years with decreases of between 21 and 35 per cent for males and 18 and 34 per cent for females. The infant mortality rate has also fallen

6.19 AGE-SPECIFIC DEATH RATES, TASMANIA

Age	Ма	les	Females	
group (years)	1970-72	1988	1970-72	1988
Under 1	17.8	11.4	11.5	7.8
1-4	1.0	0.6	0.7	0.3
5-9	0.5	0.3	0.4	0.2
10-14	0.6	0.4	0.3	0.1
15-19	2.4	1.4	0.6	0.4
20-24	2.0	1.6	0.5	0.8
25-29	1.8	1.6	0.8	0.7
30-34	1.8	1.2	0.8	0.6
35-39	2.1	2.0	1.3	0.9
40-44	3.4	1.7	1.9	2.0
45-49	5.3	2.9	3.0	1.7
50-54	9.5	6.6	5.6	4.0
55-59	15.5	11.5	8.0	6.0
60-64	25.2	16.4	12.4	9.3
65-69	39.5	28.6	21.3	16.5
70-74	62.2	49.4	36.5	24.1
75-79	91.9	67.1	60.9	43.3
80 and over	164.0	144.8	135.5	111.8

quite dramatically, from 20.3 per thousand live male births in 1960-62 to 11.4 in 1988 and from 17.3 to 7.8 among females. Nevertheless, the infant mortality rate is higher in Tasmania than for Australia.

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Chapter 7

LABOUR AND THE WORKPLACE

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Chapter 7

LABOUR AND THE WORKPLACE

Over the last two decades the Tasmanian labour force as well as the conditions under which people are either employed or not employed have undergone significant changes. Whereas in the early 1960s an unemployment rate of three per cent was considered unacceptably high, it is now above eight per cent. In response governments, both Commonwealth and State, have devised schemes to create additional jobs and training opportunities as well as to alleviate the financial hardship resulting from the loss in income.

Women now comprise a significantly greater proportion of the labour force than at any time since the Second World War. This has been a leading factor in moves against discrimination in employment and working conditions on the basis of sex.

Changes have also occurred in the work environment. Earnings have increased substantially although in many cases hours worked have decreased. The concept of a basic wage has been replaced by that of a total wage incorporating the idea of a minimum wage to be applied equally to males and females doing work of equal value.

Australia's conciliation and arbitration system, established early this century, has resulted in a level of unionism unparalleled anywhere in the Western world. The system of periodic national wage cases that has ensued has reinforced the union as a cornerstone of the Australian system of industrial relations. This has given workers' organisations wide ranging responsibilities and powers in maintaining and regulating working conditions. For example, legislation in Tasmania has given specific and extensive powers to safety representatives elected to monitor workplace conditions and practices.



Meat boners at work at the Hawkridge Meat Co. Pty Ltd. Photo: Advocate

7.1 THE LABOUR FORCE

In December 1989 there were 218 800 Tasmanians or 62.3 per cent of the State's working age civilian population in the labour force (either working or looking for work) in seasonally adjusted terms.

7.1.1 Participation in the Labour Force

Historically, the Tasmanian labour force participation rate has been lower than the national average. Over the last few years however, participation rates in Tasmania have risen more quickly than the national average and the gap has narrowed.

By far the largest movements in participation in Tasmania over the last few years, have been increases among females. In 1978 males made up 66.7 per cent of the Tasmanian labour force; by 1989 this proportion had fallen to 59.4 per cent even though the actual numbers of males participating increased. Female participation climbed from a rate of 40 per cent in 1984 to 50 per cent by the end of 1989 with an additional 22 000 females in the labour force.

Between 1978 and 1989 the participation rate for males of all age groups declined. At the early ages, this reflects the higher probability that young people remain in education after the legal leaving age, while at the older end of the

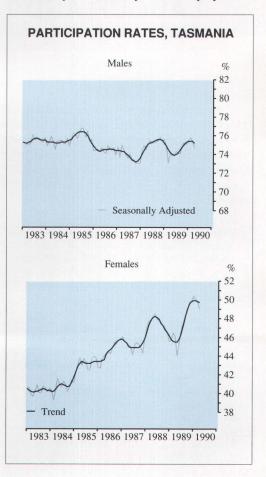
7.1 LABOUR FORCE PARTICIPATION RATES, TASMANIA, MALES (%)

	At A	ugust
Age group	1978	1989
15-19	63.0	59.7
20-24	95.0	91.5
25-44	97.1	93.5
45-54	93.8	89.4
55-64	67.7	62.6
65+	10.2	8.2
Total	78.5	74.0

7.2 LABOUR FORCE PARTICIPATION RATES, TASMANIA, FEMALES (%)

	At A	ugust
Age group	1978	1989
15-19	53.5	59.6
20-24	61.8	73.4
25-44	46.5	63.7
45-54	43.0	53.9
55-64	20.1	22.5
65+	1.1	2.7
Total	38.7	47.8

age spectrum it reflects continuing trends towards earlier retirement. While these comments are equally applicable to females, female participation rates have risen for all age groups reflecting a number of factors including greater social recognition of working females (especially those married with children), the economic requirement for some female partners to work and the opening up of jobs, notably part-time jobs, in the services sectors, an area traditionally dominated by female employment.

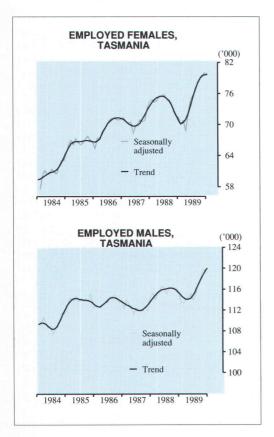


7.1.2 Employment

Employment of both males and females in Tasmania has increased during the 1980s. In December 1989 there were 198 900 persons employed in Tasmania, in seasonally adjusted terms, up from 168 500 in January 1984.

Employment growth has been dominated by an increase in female employment. Female employment growth was particularly strong during 1989 with an annual growth rate of 13.6 per cent compared with a growth of males employed of 4.1 per cent.

In the twelve months to December 1989, Tasmanian employment rose by 7.6 per cent, the largest increase of any State. The average increase across all Australia during 1989 was 4.2 per cent.



Full-time and Part-time Employment

Over the last decade, there has been little growth in male full-time employment. There has been growth in part-time male employment although it is still at a very low base. There are now nearly 10 000 males employed part time in Tasmania, more than double the numbers measured up to the mid-1980s.

For females, similar patterns emerge, with little long-term growth in females employed full time but significant growth in part-time female employment. In 1978 there were about 21 000 part-time females employed in Tasmania. These

numbers rose fairly steadily to reach 36 000 in 1989.

Tasmanian females have the highest propensity for part-time work of any State in Australia. In July 1989, 48.4 per cent of all females employed in Tasmania worked part time; for Australia, 39.1 per cent of all employed females worked part time.

Employment Sector

Tasmania has the highest proportion of any State of its employees in the public sector, 34.2 per cent in August 1989. This proportion has remained relatively stable for the last two years. Of the 53 500 public sector employees in Tasmania in August 1989, 40 600 worked for the State government, 9200 worked for the Commonwealth government and 3700 for local government.

Occupational Sector

The occupational distribution for males and females in Tasmania is quite different. Males are far more likely to be employed as managers and administrators, professionals, trades-persons or plant and machine operators and drivers. The dominant occupational groups for females are clerks, and sales and personal service workers.

Regional Employment Patterns

As expected, Tasmania's regional employment pattern reflects population distribution throughout the three regions. In December 1989, the Hobart and Southern regions with 97 400, employed 48 per cent of all the State's employed persons, the Northern region 57 400 and the Mersey-Lyell region 47 700.

During 1989, the number of persons with jobs in the south (Hobart and Southern Statistical Divisions) increased by 8.5 per cent, but employment growth in the north of the State was lower at rates of 5.7 per cent for the Northern Statistical Division and 4.1 per cent for the Mersey-Lyell Statistical Division.

Industry Distribution

Data on the industry distribution of Tasmanian employees continue to show the importance of the community services sector. This sector employed 26.8 per cent of all Tasmanian employees in August 1989, the same proportion as in August 1986. The other large industry sectors were manufacturing (18.4 per cent, up from 17.0 per cent three years ago) and wholesale and

retail trade (16.5 per cent down from 17.7 per cent).

The industry distribution by sex shows different pictures. For males, the distribution is more even with the manufacturing sector being the

7.3 INDUSTRY EMPLOYMENT DISTRIBUTION, TASMANIA (%)

Industry	August 1986	August 1989
Mining	2.1	1.8
Manufacturing	17.0	18.4
Electricity, gas and		
water, construction	8.3	7.0
Wholesale and retail		
trade	17.7	16.5
Transport and storage	4.5	4.3
Communication	2.3	1.9
Finance, property and		
business services	9.7	9.2
Banking	2.0	2.0
Non-bank finance		
investment and insurance	1.8	2.1
Property and business		
services	5.9	5.1
Public administration and		
defence	5.0	6.3
Community services	26.8	26.8
Health	11.3	12.8
Education, museum and		
library services	10.8	10.9
Welfare and other		
community services	4.8	3.9
Recreation, personal and		
other services	6.1	6.6
Total all industries	100.0	100.0

most important with just over one quarter of all employees. The next most likely employers of males were the community services and wholesale and retail trade sectors. For females, the community services industry dominates, covering nearly 43 per cent of all employed females in Tasmania. The wholesale and retail trade sector is the next most important followed by manufacturing and finance, property and business services.

Hours Worked

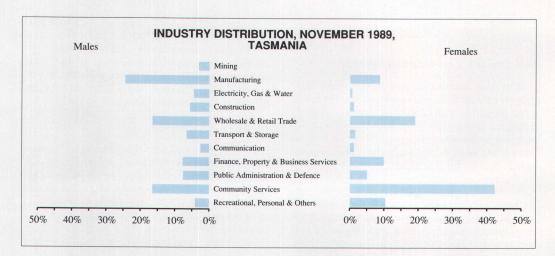
Average weekly hours worked vary considerably each month and are heavily influenced by the incidence of public holidays and, to a lesser extent, school holidays. On average, full-time males work longer hours than full-time females.

Over the last few years, Tasmanians have generally worked less overtime than the national average. In August 1989, the average weekly hours of overtime worked by all employees in Tasmania was 1.07 hours, significantly lower than the national average of 1.48 hours per week.

The proportion of all employees working overtime in Tasmania is also lower than the national average. In August 1989, 17.5 per cent of all Tasmanian employees worked overtime compared with the national average of 19.9 per cent.

Persons Employed at Home

There were 7300 persons employed at home in Tasmania in April 1989, 3.9 per cent of all Tasmanian employed persons. They were people who usually worked more hours at home



than elsewhere in their job or business (excluding farmers and their assistants).

Sixty per cent were females and 55 per cent were family members with children under 14 years. A quarter of those employed at home were clerks, 21 per cent were tradespersons and 20 per cent were professionals.

Labour Mobility

Sixteen per cent of Tasmanians who had worked at some time during the year to February 1989 had changed their job. This is the lowest proportion of any State or Territory in Australia and compares with the national average of 19.7 per cent. Tasmanians aged 20-24 years were the most job mobile (28.7 per cent), consistent with the national trend.

Of those Tasmanians who had worked at some time in the twelve months to February 1989, 87.4 per cent had only one employer or business during the year, 10.3 per cent had two employers or businesses during the year, while 2.3 per cent had three or more employers.

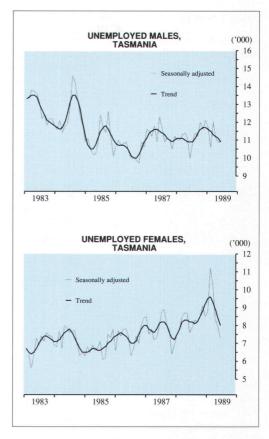
Seventy-six per cent of those Tasmanians working in February 1989 had worked for one year or more in their current job. Tasmanians were far more likely than average Australians to have remained in their current job for a long time. Nearly one-third of Tasmanians employed in February 1989 had been in their current job for 10 years or more, significantly higher than the 22 per cent for all Australians.

7.1.3 Unemployment

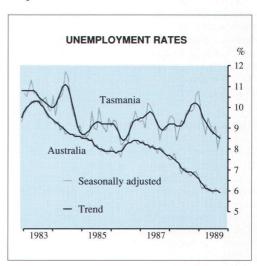
Unemployment remains high in Tasmania. In December 1989 there were 19 900 Tasmanians unemployed on a seasonally adjusted basis. This is slightly higher than the number unemployed in January 1984.

In the twelve months to December 1989 the number of Tasmanians unemployed fell by 10 per cent in line with the fall recorded nationally of 10.2 per cent.

There are some surprising patterns emerging from an analysis of changes in regional unemployment during 1989. While unemployment fell slightly for all of Tasmania from 21 500 in December 1988 to 20 900 in December 1989, all of the fall was in the Northern Statistical Division (6600 to 4800). In the other two regions unemployment rose during 1989.



The unemployment rate in Tasmania has consistently remained the highest of all States over the last few years. The seasonally adjusted unemployment rate for December 1989 was 8.8 per cent, while the average for all Australia was 6.0 per cent.



Youth Unemployment

Unemployment is particularly severe amongst young people. In Tasmania, persons aged 15-24 years comprise 20.5 per cent of the State's civilian population aged 15 and over. However, this age group accounts for nearly 46 per cent of all Tasmania's unemployed.

7.4 AGE DISTRIBUTION OF UNEMPLOYED, TASMANIA, NOVEMBER 1989 (%)

Age group	Proportion of population	Proportion of unemployment
15-19	11.0	22.3
20-24	9.5	23.6
25-34	20.6	19.9
35-44	18.9	16.9
45-54	13.3	11.1
55+	26.3	6.1
Total	100.0	100.0

Hidden Unemployment

As levels of unemployment rose the term 'hidden unemployment' became widely used to describe those who, although failing to satisfy the statistical criteria as unemployed, nevertheless do have some commitment to gain work. The term 'hidden unemployment' is used to refer to people who, while neither employed nor actively seeking work when surveyed, would seek work if the demand for labour should improve or other considerations would change to allow them to seek work. However, precise measurement is difficult. People wanting to work include a range of potential workers, from genuinely discouraged jobseekers to people with family commitments whose interest in finding employment may be unlikely to be realised.

In September 1989 there were 21 160 people who, although neither working nor officially 'unemployed', nevertheless indicated this kind of 'marginal attachment' to the labour force. Of those marginally attached 90 per cent wanted to work and were available to start work in four weeks but were not actively looking for work, 79 per cent were females, 74 per cent would prefer to work part time, and 74 per cent had not looked for work within the previous twelve months.

Job Vacancies

The tightness of the Tasmanian labour market is clearly seen when the total number of people looking for work is compared with the number of vacancies available with employers. While unemployment has remained at around 20 000 in Tasmania over the last few years, the number of job vacancies estimated has been around 1000, a ratio of about one vacancy for every 20 persons seeking work.

Tasmanian Employment Summit

On 28 and 29 November 1989, the Government held the Tasmanian Employment Summit at Parliament House.

The objectives of the summit were to:

- bring together representatives of employee, business, community and government organisations to consider Tasmania's employment situation; and
- seek consensus on an overall strategy for addressing employment issues in Tasmania.

Submissions were publicly sought from interested individuals and organisations. Sixty-four were received. A range of background papers was prepared and widely disseminated prior to the summit to facilitate discussion of employment issues.

The summit was attended by 53 participants and 40 official observers. The public gallery of the House of Assembly was open to members of the public throughout the proceedings.

At the conclusion of the summit, a communique was prepared identifying the areas of consensus on employment issues and strategies to create employment opportunities. In particular, it was agreed that a new economic consultative body - the Tasmanian Economic Partnership - would be established to provide an ongoing forum for consultation.

A full Hansard record of the summit was kept and has been published, together with other details of the summit in *Tasmanian Employment Summit - Proceedings*.

The vacancies have been generally split fairly evenly between the public and private sectors although over the last year private sector vacancies have increased slightly. Tasmania's job vacancy rate remains below the national average.

7.2 EMPLOYMENT, EDUCATION AND TRAINING

The quality of Australia's future workforce skills will depend not only on the basic education and initial preparation provided to young people, but also on the development and continuous upgrading of skills in the adult workforce. Traditional skill requirements have already undergone significant change as a result of the rapid spread of micro-electronic applications in the manufacturing and service industries, and further changes will inevitably occur under the influence of continuous improvements in technology.

Consequently, government is moving on a number of fronts to make education and training systems more attuned to the new requirements for skills demanded by our changed economic circumstances.

Education and the Labour Market

Participation in the labour force varies according to educational attainment. In February 1989, persons who had obtained post-school qualifications had a participation rate of 72.2 per cent, significantly higher than those with no post-school qualifications (56.7 per cent).

Of persons with a post-school qualification, those with a trade qualification or apprenticeship had the highest participation rate (77.8 per cent) followed by persons with a degree (76.8 per cent) and persons with a certificate or diploma qualification (65.3 per cent).

The overall proportion of males with postschool qualifications was 39.8 per cent, considerably higher than the estimate of 26.6 per cent for females, but both were lower than the Australian rates of 44.3 and 32.7 per cent respectively.

Seventy-eight per cent of the 23 200 estimated unemployed persons in February 1989 had not obtained a post-school qualification. The unemployment rate for those without a tertiary qualifi-

cation was 15.1 per cent. This compared with an unemployment rate of five per cent for Tasmanians with a post-school qualification.

Transition from Education to Work

Of the 24 100 Tasmanians aged 15 to 64 who attended a school at some time in 1988, there were 8200 who had left school by May 1989. In May 1989, 33 per cent were attending a tertiary institution, lower than the national average (50 per cent) of school leavers continuing on to tertiary education. Of those not attending a tertiary institution, 4000 were employed while those unemployed comprised 19 per cent of the school leavers.

In 1988, 9700 Tasmanians left full-time education. Of these, 72 per cent were employed in May 1989 and 19 per cent were unemployed. The unemployment rate among leavers was 21 per cent and the labour force participation rate was 92 per cent.

Nearly one-third of employed leavers found jobs in the wholesale and retail trade sector, 19 per cent in the community service sector, 14 per cent in finance, property and business services and 12 per cent in manufacturing.

Of the 3000 employed persons who had left a tertiary institution, 40 per cent had become mangers and administrators or professionals. On the other hand, of the 4000 leavers from schools who were employed in May 1989, 31 per cent were sales persons and personal service workers and 27 per cent were labourers.

7.2.1 The Commonwealth Employment Service

The CES delivers a wide range of programs to assist disadvantaged people to seek and gain employment.

Newstart

Newstart provides assistance and incentives to long-term unemployed people (18-54 year olds, unemployed for over 12 months), to help them get back into the workforce. Help includes counselling, assessment, placement in other programs and a payment to help with the extra expenses involved in going back to work.

Job Search Training Program (JSTP)

The JSTP was introduced in recognition of the fact that vocational skills alone are not always the determining factor in obtaining a job; while many jobseekers are capable of undertaking the employment they seek, a sizeable proportion lacks the necessary knowledge of how the labour market actually operates, and the skills to effectively look for and obtain satisfactory employment.

Job search training courses are spread over three to five days and cover aspects such as choosing a job, contacting employers and keeping the job. Job clubs, the other element of the program, offer a much more intensive and comprehensive coverage of job search techniques and practical exercises such as writing applications and interviewing techniques.

The needs of professionally qualified job seekers are served by Professional Employment Services Offices in the major centres of population and business.

In its attempts to increase employment prospects of job seekers, the CES provides counselling and support services for groups with particular difficulties and needs. These include youth, people with disabilities, Aboriginals and migrants.

7.5 CES STATISTICS, TASMANIA, 1987-88

Registrations of jobseekers	70 161
Vacancies notified to the CES	33 844
Vacancies filled	29 411

Source: DEET Annual Report 1987-88.

7.2.2 Commonwealth Government Assistance Schemes

Skillshare

Skillshare was introduced in January 1989, integrating the former Community Youth Support Scheme (CYSS), Community Training Program (CTP) and Community Volunteer Program (CVP). Program delivery is through the Commonwealth funding projects sponsored by community organisations or local government authorities. The aim of Skillshare is to assist long-term and other most disadvantaged unemployed people to gain employment, or to move on to further education or training.

Activities include structured skills training with an appropriately balanced combination of job specific skills, job search skills and personal effectiveness skills; open access services including volunteer referral activity, ad hoc job search training, employment related personal support and referral services, general work skills and personal effectiveness training, work related excursions and limited recreational/hobby activities; and enterprise activities through income generating activities and training in small business skills.

Information Technology Centres (ITeC) specialise in providing structured skills training in electronics and computer applications. Services include promotion of information technology applications to the broader community through their open access and encouraging new and existing small business by providing information technology support.

A network of projects services areas of high unemployment providing a balanced range of relevant programs and activities for the target group. In 1989, 12 organisations sponsored 15 projects in Tasmania and received \$2 840 000 in Commonwealth funding.

JOBTRAIN

This program assists disadvantaged job seekers, such as the long-term unemployed, to increase their competitiveness in the local labour market through the acquisition of marketable skills.

Short-term training up to a maximum 12 months duration is provided through established or specially contracted courses designed to meet local labour market needs. Preparatory training may also be approved to enable participants to undertake skills training.

JOBSTART

JOBSTART, provides a 20-week wage subsidy to employers who provide jobs to job seekers who have experienced long periods of unemployment or face other disadvantages in obtaining employment.

Assistance is offered to employers if they are prepared to pay at least the award or appropriate wage for the job and fulfill other award conditions.

Heavy Engineering Adjustment and Development Program

This scheme was introduced to assist with the restructuring and revitalising of the heavy-engineering industry. Assistance is provided to

heavy-engineering firms to upgrade and enhance the skills of existing employees, including assistance with the training of specialised trainers and supervisors. This assitance is linked to improvements in work practices and more effective utilisation of existing and new technology.

In addition, a package of formal training, wage subsidy and relocation assistance is provided for workers retrenched from heavy-engineering firms, including eligibility for labour-market-orientated formal training, relocation assistance and eligibility for wage subsidy assistance.

7.2.3 State Government Assistance Schemes

In 1988-89 flexible new programs were introduced and a number of creative employment initiatives were supported in response to a difficult labour market. Most of these programs concentrate on full-time paid positions and emphasize the importance of training, but part-time employment and self-employment are also encouraged under some programs. In response to requests from a number of local government bodies a major effort was made to include local government in job creation.

During 1988-89, 1949 full-time and 77 part-time positions were directly created. These included: 904 positions under the Build a Business program; 255 additional positions under the Tasmanian Employment Program; 157 additional training positions under the Traineeships Tasmania program; 617 additional training positions under the Add an Apprentice program; 13 additional training positions under the Training Express program; and three management training positions under the Young Managers program.

In addition there have been 48 additional parttime positions established under Job Share Tasmania and under the Taswork pilot project at George Town 29 additional part-time positions were created.

7.2.4 Training and Apprenticeship

The State Department of Employment, Industrial Relations and Training in conjunction with the Commonwealth Department of Employment, Education and Training are charged with the role of developing and administering employment and training schemes to give people the skills and experience they need to obtain and keep employment.

International Award*

The Summerleas Youth Co-operative Programme at Kingston, a farm co-operative for youth, won an international \$2400 award through the Commonwealth Youth Service Award Scheme in May 1988.

It was in recognition of the contribution made by young people to their society and showed that Australian Youth projects are of world standard both in the quality of services they produce and in the innovative approach they take.

Governments nominate projects which:

- · show effective teamwork by young people;
- are devised, set up and maintained by young people;
- · have met local needs;
- · show long-term potential; and
- provide inspiration for other groups.

Mr Julian Punch is the co-operative's coordinator of welfare and seven young people live on the farm, which is run by the Youth Programmes Inc.

*This article has been taken from the Mercury.



Workers at the Summerleas co-operative farm for youth, which won an international award for projects set up and maintained by young people.

Photo: Mercury

The Australian Traineeship System

By the end of 1989, 897 young Tasmanians had commenced traineeships in various industries around the Stateunder the Australian Traineeship System; 391 of those trainees have now completed their traineeships.

7.6 TRAINEESHIPS, TASMANIA, 1989 (a)

Traineeship	Number of trainees commenced	Number of trainees completed
Office skills	522	267
Concrete worker	4	0
Hospitality	70	36
Insurance	13	7
Local government	22	12
Furniture removalist	20	20
Freight forwarding	15	8
Textile	10	7
Telecom	10	10
Rural	58	24
Retail sales	113	0
Logging	11	0
Silviculture	10	0
Plant operations	4	0
Banking	15	0
Total	897	391

(a) These statistics represent total figures as from the commencement of the Australian Traineeship System in Tasmania.

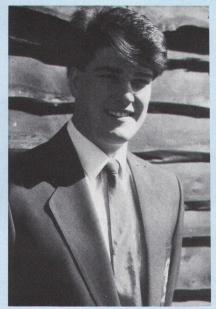
In broad terms, a traineeship is a structured vocational training system. It combines on and off-the-job training for 15-19 year olds. It provides broad based training and offers the opportunity to progress to permanent employment and a worthwhile career and/or further education and training.

Essentially a traineeship lasts for 12 months, including 13 weeks of off-the-job training which is provided by TAFE colleges throughout the State. Upon successful completion of the traineeship a trainee receives a nationally recognised Certificate of Proficiency.

Further traineeships are expected to be offered in warehousing, office systems software support, mining, automotive, fishing and many other areas of employment during 1990.

The inaugural Tasmanian Trainee of the Year was held in 1989. The competition was sponsored by UNISYS who provided \$4000 worth of computer hardware.

Tasmanian Trainee of the Year, 1988-89



Simon Hine was a trainee in freight forwarding with TNT Express Devonport. He also won the silver award in the AMP National Apprentice and Trainee of the Year Awards.

Apprenticeships

Similar to traineeships, apprenticeships involve two types of training; broad practical on-the-job training and off-the-job technical training given at a technical college or equivalent.

Attendance at off-the-job training is compulsory and for some trades it may be necessary to attend a college away from home, at either intra or inter-State colleges.

The apprentice serves a three month probationary period which is included in the formal contract of training signed by both the employer and the apprentice at the commencement of the employment. Once the contract is signed and registered, it can only be ended if the government Training Authority agrees. When the apprenticeship is finished a certificate is presented to the apprentice to show that they are a qualified tradesperson.

Depending on the various trades an apprenticeship may last from two to four years. In spe-

7.7 APPRENTICES, TASMANIA, 1988-89

Trade group	Commence- ments	Comple- tions	Apprentices in training at 30 June 1989
Metal	265	236	945
Electrical	149	135	472
Building	308	263	876
Printing	24	17	92
Vehicle	177	118	462
Food	170	118	445
Other	304	182	875
Total	1 397	1 069	4 167
Females	189	97	557
Males	1 208	972	3 610

cial cases apprenticeships can be shortened or lengthened depending on the requests.

During 1988-89 there were 4167 apprentices in training around the State with approximately 1397 of these in their first year. Almost 96 per cent of commencements in 1988-89 occurred

Apprentice of the Year, 1988



Jamie Howell was an apprentice industrial instrument mechanic with Associated Pulp & Paper Mills, Burnie. He also won the silver award for apprentices in the Australian AMP Apprentice and Trainee of the Year Awards. with private firms. Over the past 10 years the number of apprenticeships in particular trades varied considerably.

In 1989 the new apprenticeship scheme which is competency based was introduced. This scheme will take many years to cover all trades offered in Tasmania as it involves a complete review of each trade.

Each year the Tasmanian Training Authority offers an award to the outstanding apprentice in each major group of trades. From these apprentices the 'Apprentice of the Year' is chosen. In 1989 the awards were sponsored by the Tasmanian Bank, Qantas and Australian Airlines.

7.3 THE WORKING ENVIRONMENT

7.3.1 Earnings

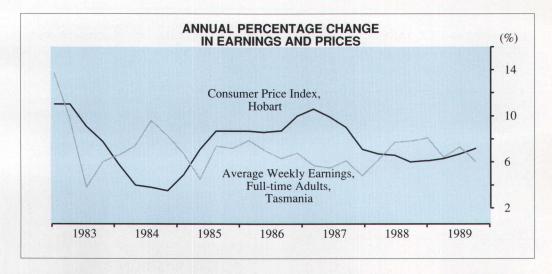
For much of 1988 and early 1989 real wages in Tasmania rose - that is, the annual increase in average weekly earnings for full-time adults in Tasmania was higher than the annual growth in the Hobart Consumer Price Index (CPI). This period followed nearly three years when real earnings fell. Towards the end of 1989, the annual movement in the CPI increased while the annual change in average weekly earnings fell.

In August 1989, the average weekly earnings for full-time Tasmanian males was \$556.10, while for females it was \$430.70, both lower than the national average of \$585.00 for males and \$459.30 for females.

For the year to August 1989, average weekly earnings for all Tasmanian male employees rose by 6.8 per cent (6.4 per cent for full-time adult males); those for all female employees rose by 6.6 per cent over the year (5.1 per cent for full-time adult females). These increases were generally less than the national averages.

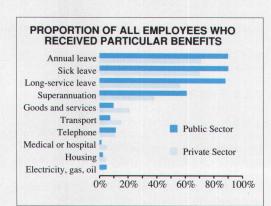
7.3.2 Employment Benefits

While the propensity for males and females working full-time or part-time to receive benefits were similar, the fact that a much higher proportion of females worked part time meant that 78.2 per cent of female employees received a benefit compared with 91.2 per cent of males in August 1989.



The most common benefits received were leave provisions: 77.1 per cent of all Tasmanian employees received annual leave, 76.4 per cent sick leave and 68.1 per cent received long service leave. A superannuation benefit was received by 52.9 per cent of Tasmanian employees, slightly higher than the national average (46.8 per cent).

Employees in the Tasmanian public sector were more likely to receive an employment benefit than their counterparts in the private sector (92.8 per cent and 82.5 per cent respectively). They were more likely to receive sick leave (89.5 per cent versus 70.2 per cent), annual leave (89.4 per cent versus 71.4 per cent), long-service leave (87.7 per cent versus 59.0 per cent) and superannuation (68.3 per cent versus 45.9 per cent). On the other hand Tasmanian private sector employees were more likely to receive benefits such as goods and services,



housing, transport and assistance with medical and hospital expenses and union dues.

There was some variation in benefits received across the various industry sectors. At least one benefit was received by 96.3 per cent of employees in the electricity, gas and water industry, while 97.0 per cent of employees in the mining and 90.8 per cent of employees in the communication industries received benefits. For the recreational, personal and other services sector however, only 60 per cent of employees received a benefit, although it should be remembered that a large proportion of employees in this sector work on a part-time or casual basis.

For some types of benefits, receipt of the benefit was predominantly associated with employees in a particular industry. Of the 1.9 per cent of all employees who received low-interest finance as a benefit, 61.5 per cent worked in the finance, property and business services sector. Nearly half of all those who received a housing benefit were employed in the agriculture or mining sectors, while 45.2 per cent of those who received shares, rights or options as an employment benefit worked in the manufacturing sector.

7.3.3 Major Labour Costs

Tasmanian employers were estimated to have spent \$3170 million on labour costs during the year ended 30 June 1987. Estimated expenditures in Tasmania on labour cost items included in the survey were:

• employee earnings (\$2903 million) made up of payments for time worked (\$2493

million), annual leave (\$207 million), other leave (\$166 million), and severance, termination and redundancy payments (\$37 million); and

 other labour costs (\$267 million) were made up of payroll tax (\$76 million), superannuation (\$132 million), workers compensation (\$51 million), and fringe benefits tax (\$8 million).

The average cost of employing labour in Tasmania in 1986-87 at \$20 630 per employee was well below the national average of \$22 536. Oncosts in Tasmania at \$4406 per employee were also lower than for the whole country (\$5129). They comprised an estimated \$1346 for annual leave, \$1083 for other leave and bonuses, \$239 for severance, termination and redundancy payments, \$492 for payroll tax, \$861 for superannuation, \$330 for workers' compensation and \$54 for fringe benefits tax.

In Tasmania the average cost per employee for private sector employers was \$18 687 compared with \$24 257 for public sector employers.

In Tasmania the highest labour cost per employee was incurred by private sector employers involved in mining (\$28 395) while the lowest was in the recreation and other service industry (\$10 657). This pattern is consistent with that measured in other States.

Labour costs per employee were significantly higher in large firms compared with small business largely because of the differing applicability of payroll tax and the effect of the type of employment in small businesses on annual leave entitlements.

The most expensive government employment sector in Tasmania was the Commonwealth (\$27 245 per employee). This compares with total labour costs in the State government sector of \$23 760 per employee and in the local government sector of \$21 111 per employee. Significant contributions to this result were payments of time worked (\$19 290 per employee for Commonwealth; \$17 872 for State and \$16 968 for local government) and superannuation (\$2753 per employee for Commonwealth; \$1109 for State and \$1007 for local government).

7.3.4 Wage Fixing

In Australia two sets of authorities regulate wages and salaries: the Australian Industrial Re-

lations Commission (AIRC) with federal jurisdiction, and various State tribunals; in Tasmania the Tasmanian Industrial Commission. In Tasmania approximately 35 per cent of employees are covered by federal awards and about 51 per cent by State awards.

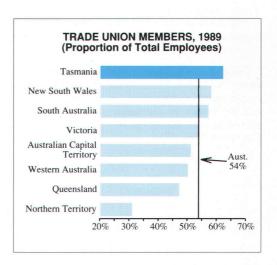
Over the twelve months to December 1989, the weekly award rates of pay indexes rose by 5.5 per cent for Tasmanian adult males and by 6.6 per cent for Tasmanian adult females, the largest increases of any State or Territory.

During 1989, for full-time adult males in Tasmania, the largest annual increases occurred in the construction industry (8.3 per cent) and the wholesale and retail trade sector (7.3 per cent), while the smallest pay rises (3.6 per cent) were received by male employees in the communication and public administration sectors. For females the largest increases were recorded in the wholesale and retail trade industry (7.9 per cent), the recreation, personal and other services sector (7.6 per cent) and the manufacturing sector (7.4 per cent). The lowest increase was the 4.4 per cent rise for employees in the communication industry.

7.3.5 Trade Unions

Tasmania has the highest rate of trade union membership of any Australian State.

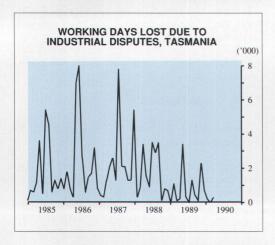
At the end of June 1989 there were 125 separate unions in Tasmania, accounting for a total membership of 97 100 (63 000 males and 34 000 females). Tasmania's union membership had increased by 3.2 per cent in 12 months.



Tasmania has maintained the highest proportion of trade union members to total employees for both males and females; 69 per cent of all male employees and 51 per cent of females were trade union members. Nationally, 62 per cent of male employees and 44 per cent of females were trade union members.

7.3.6 Industrial Disputes

The current level of industrial disputation in Tasmania is relatively low both compared with the recent past and with the experience in other States. For the twelve months to October 1989, 9700 working days were lost due to industrial disputes in Tasmania. This followed 1988 and 1987 when 18 600 and 28 000 working days were lost respectively and compares with the early 1980s when of the order of 50 000 to 60 000 days were lost each year.



The level of industrial disputation reached a record low in August 1989.

For the twelve months ended August 1989, there were 53 working days lost per thousand employees in Tasmania, the lowest of any State, and the lowest in Tasmania since this statistic was first introduced on a monthly basis in December 1981.

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Chapter 8

SPORT, RECREATION AND RELIGION

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Chapter 8

SPORT, RECREATION AND RELIGION

Tasmania's sporting, religious and cultural heritage is drawn from a number of diverse environments, ranging from the lifestyle and culture of the Tasmanian aborigines prior to European settlement through to the spectacle and world-wide appeal of the international cricket test held at Bellerive oval.

Prior to European settlement of Tasmania at the beginning of last century, sport, religion and culture as many of us think of it today was unknown or unrecognised by the new colonists. However, the aboriginal peoples who had settled the 'island' over 35 000 years before had maintained an intricate lifestyle and culture. Evidence of this culture is evident from numerous archaeological sites around the State.

Notable sites include the rock carvings at Mt Cameron West and High Rocky Point, an ochre quarry at Louisa Bay, hand stencils on cave walls and rock faces in the south-west and Derwent Valley, and a stone arrangement at Cox's Bight. Some of the hand stencils, made with a mixture of ochre, blood and animal fat, date back over 10 000 years. The carvings at Mt Cameron West have been dated to 1600 BP.

Tasmanian aboriginal song, dance and religion *

Tasmanian Aborigines may have had a simple material technology, but their spiritual and artistic lives were rich and complex.

Song and dance seem to have been their main forms of entertainment and artistic expression for their thoughts on life, love and death. Their songs were melodious and sweet, and 3-part harmony sung by women was often heard. This



Jim Everett
and Darrell
West at
Wargata
Mina, an Ice
Age Aboriginal cave painting site in
south-west
Tasmania.

Photo: A. M^cGowan

is very uncommon in the Australian context. Their melodies too were unusual and had more in common with island Melanesia than with the rest of Australia. The style thus may be as old as the colonisation of Australia around 40 000 years ago.

In the dance, both men and women could show off their athletic prowess and grace, and their superb gifts of mimicry. Many of their dances were carefully observed renditions of the behaviour of animals such as kangaroos and emus. Dances devised after European contact reflected the strange new invader; they told stories of horses, dogs, guns and bullock carts. It was clearly an adaptable and thriving art.

Religious life appears to have been part of the same tradition as that of mainland Australia. Tasmanian Aborigines professed a belief in the Dreamtime, and the ancestor spirits who created life and the physical world in that time.

Some of the religious song cycles appear to form part of the network of such cycles which spread across south-eastern Australia. They observed taboos on the eating of certain animals, and followed strict procedures to appease the spirit world while carrying out daily activities such as gathering certain foods or making items like spears. As a result, Tasmanian Aborigines were able to move confidently within their physical and spiritual world.

*Article contributed by Julia Clark, Tasmanian Museum and Art Gallery.

8.1 SPORT

Tasmania provides its residents and visitors with abundant opportunities to take part in sporting activity, either directly as participants or indirectly as spectators. Few Tasmanian towns are without football or cricket ovals, golf courses, lawn bowls greens, swimming pools, cycling tracks, or sporting centres which facilities provide basketball, netball, badminton and similar sports. The coastline, whilst rugged and, in places, treacherous, provides excellent boating and surfing venues which lure many Tasmanians to the water. It provides a focal point for the world famous Sydney to Hobart yacht race.

It is no wonder then that, for its population size, Tasmania has provided an impressive register of national and world class sporting heroes including Darrel Baldock, David Boon, Danny Clark, Doug and Bill Youd, Bill Emmerton, Helen Gourlay, Peter Lawson, Geoff Ayling, Ian Davies, John Goss, David Connor, Stuart Hamilton, James Giannaros, Denise Millikan, Penny Gray, Michael Grenda, David Foster, Don Calvert, Nick Rogers, Malcolm Campbell and Christine Marshall.

Tasmania played host to a number of national and international sporting events in 1988 and 1989. Major events included the Australia - Sri Lanka test cricket match at Bellerive Oval in December 1989, the Tasmanian Three-Peaks races at Easter in 1989 and 1990, the APPM

Asia-Pacific and World Cup orienteering championships in January 1988, the World Fly Fishing Championships in November/December 1988, the Inter-Dominion Young Driver's Pacing Championships in April 1988, the Billabong Australian Surfing Titles at Shelleys Beach in February 1989 and the Shell Ultra Australian Touring Car Championships at Symmons Plains in March 1989.

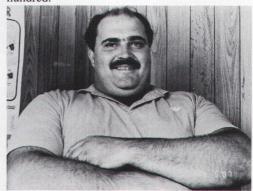
8.1.1. Sporting Achievements

Tasmanians continue to perform successfully at both the national and international level with a number of notable achievements over the past few years.

Cycling in Europe is still dominated by Danny Clark. He remains the world's six-day champion, having now won 57 six-day events and two European titles. Danny Clark was presented with the 1988 Tas-TV Sportsman of the Year and the 1988 Caltex-Mercury Sports Star Award for his achievements.

Veteran cycling has a new world champion in the guise of Ray Appleby. Ray won the 45-49 age group in the world veteran cycling championship held at St Johann in Austria in September 1989.

Multiple world wood-chopping champion David Foster was named captain of the Australian team to contest a three-match series against New Zealand during 1990. At Sydney's Royal Easter Show in 1990, David added four additional chopping titles to his list of world titles to bring his total of world titles to one hundred.



David Foster.

Photo: Mercury

Greg Campbell joined David Boon for the 1989 Ashes cricket series in England and played in his maiden test match in the first test. SPORT 99

Australia won this test match and later won the Ashes with David Boon scoring the winning run in the fourth test to wrap up the series. Australia eventually went on to win the series four to nil.

Test match cricket came to Tasmania on 16 December 1989, at the Bellerive oval. The test match was played between Australia and Sri Lanka. David Boon had the honour of facing the first ball of the match from Ravi Ratnayeke and of scoring the first run.

Greg Campbell was also named in this test and received thunderous applause when called on to bowl in Sri Lanka's first innings. Australia went on to win the test match.

At the Australian Amateur Boxing Championships held in October 1988, Tasmanians scored gold medals in three divisions. Fifteen-year-old Justin Crawford won the welterweight division, with David Dransfield and Guy Belbin winning the senior heavyweight and senior middleweight titles respectively.

Tasmanian Olympic yachtsmen Gary Smith and David Connor sailing their Flying Dutchman class *Holiday Isle* won the Dutch national championship and were placed third in the Italian Riva del Garda championship in 1988.

The Australian Karate Championships held in Devonport in August 1988 saw three Tasmanians, Steve Hayes, Wayne Postlethwaite and Craig Dick, fill the first three placings in the Champion of Champions title.

Shirley Brasser was named the inaugural Tasmanian Sportswoman of the Year in 1988. Shirley competed in the World Veteran Games which were staged in Melbourne, she won seven gold medals and one silver medal. She held world veteran records for the 1500 metres and the 10 000 metres between 1979 and 1987.

Christine Marshall was named Tasmanian Sportswoman of the Year in 1989 for her exploits in the sport of orienteering. Christine won two national championships and was named to captain the Australian orienteering team which competed in the World Championships in Sweden.

John Bowe, driving Dick Johnson's Ford Sierra, won the Toohey's 1000 at Mount Panorama, Bathurst in October 1989. He was the runner up in the Australian touring car championship. John was named Tas-TV Sports Champion of the Year for his exploits.

Commonwealth Games

The Commonwealth Games were held in Auckland, New Zealand during January 1990. Tasmania had 10 representatives in the Australian team.

Athletics

Jocelyn Millar-Cubit: Heptathlon

Gail Luke: 800m, 4x400m relay Simon Hollingsworth: 400m hurdles, 4x400m

relay

Susan Andrews:

Judo

Chris Bacon: Dean Lampkin: under 86kg class under 95kg class

400m, 4x400m relay

Swimming

Brett Stocks:

100m & 200m breast-

stroke.

4x400m medley relay

Weight-lifting

Ron Laycock:

52kg class 52kg class

Russel Holloway: Jason Roberts:

52kg class 110kg class

The Tasmanians performed exceptionally well being awarded five medals between them.

Ron Laycock:

weight-lifting clean and jerk - gold, snatch - gold

Dean Lampkin: Chris Bacon: Susan Andrews: judo (95kg) - silver judo (86kg) - bronze athletics 4x400m

relay - silver

Five Tasmanians were included in the squad of 270 Australian athletes who contested the 1988 Olympic Games in Seoul. They were hockey player Maree Fish, diver Julie Kent, weight-lifter Ron Laycock and yachtsmen Gary Smith and David Connor. Maree, goal keeper for the women's hockey team, shared in their triumph and was rewarded with a gold medal.

Other notable achievers were Elliott Booth who is now the Tasmanian amateur golf champion, Malcolm Campbell who broke the race record on his 1000cc motor-bike at Phillip Island in winning both races there and Bradley Thomas who won a silver medal in the pentathlon whilst competing in the Seoul Para-Olympics.

TASMANIA'S FIRST TEST *

Tasmanian cricket reached full adulthood on 16 December 1989 when it was admitted to the hallowed ranks of Test-staging membership. The initiation ceremony was a relatively painless affair lasting five days - a Test match full of swinging fortunes, skilful individual performances and, mercifully, brilliant weather.

The event had its genesis, paradoxically, in the dilapidation of a cricket ground, specifically, the Tasmanian Cricket Association Ground on the Upper Domain in Hobart. The reluctance of the people's representatives to invest in the refurbishment of the 105-year-old institution forced cricket's administrators to look elsewhere for a first-class venue, and, at the end of the 1986-87 season, the decision was made to transfer headquarters across the Derwent to the Bellerive Oval.

The generosity of the State Government of the day and the on-going support of the Clarence City Council made it possible to upgrade the viewing facilities at the new venue commensurate with the improvements recently made to the playing surface. Within a few short winter months, Bellerive Oval was transformed from a smart club ground into an outstanding international arena, and by the end of the first season, 1987-88, it had hosted an international three-day match, a One-Day International, and its first Sheffield Shield match.

The next season provided a similar program for Hobart's cricket-watching patrons, by which time public rumours had emerged about an impending Test match. The Australian Cricket Board confirmed the whispers after its autumn deliberations, and the countdown began towards what was arguably Tasmania's greatest sporting event.

The match pitted international cricket's 'Cinderella', Sri Lanka, against an Australian team fresh from trouncing the Old Enemy on its own patch. On the face of it, it was not a contest that would quicken the pulse, but the prospect of Tasmania seeing for the first time in 25 years its national cricket team, more than countered the suspicion that the game might be one-sided.

In the event, the match itself and the associated activities proved to be a total triumph for the hard-working committee whose brief it was to plan the occasion. Tasmanian Cricket

Council chairman Denis Rogers presided over, and contributed to, a vast output of work produced by the likes of Richard Watson, Brent Palfreyman, Brian Davison and Kevin Connor.

The Sri Lankans had contributed to the atmosphere by earning the best of a drawn Test match at Brisbane a few days before, dispelling all thoughts of an Australian walkover. Both teams arrived in time to attend the Test Match Dinner at the Sheraton Ballroom, at which 500 people were royally entertained by some vintage Richie Benaud and Mike Coward, entertainer Mark Weeks, and a short film setting Tasmania's place in cricket history.

One of the heroes of the match was the curator Peter Stow who prepared a fine Test pitch that gave assistance to the fast bowlers on the first two days, before it flattened out to allow some scintillating batting on the last three days. Stow deservedly received the plaudits of the top commentators at the game for the groundwork he laid for a grand cricket match.

The weather proved to be in a remarkably conciliatory mood, given what has been dished up to Hobart at the same time in previous years. Successive maximum temperatures of a sunny 17°, 22°, 25° and 31°C on the first four days eventually gave way to 17°C on the last, which finally forced the players into the shelter of a sweater or three.

The atmosphere on the first morning almost defies description. A large crowd was in attendance well before play began, and the buzz of excitement would have produced emotion in the most hardened cynic. The Tasmanian involvement extended well beyond providing a venue for this Test match as news of the first ball, bowled to David Boon with umpire Steve Randell officiating at the bowler's end, was broadcast around Australia on the ABC by Neville Oliver. Subsequently, Australians from other States were allowed to participate in the game!

SPORT 101

The constant fall of wickets on the first two days gave rise to dire predictions of a three-day finish, but Peter Stow's pitch refused to allow that, and Australia was able to build on a slender first innings with some ease. Unfortunately, David Boon contributed nothing to this, slashing a catch off the first second innings ball he received, and with a knee injury limiting his appearance on the field thereafter.

Sri Lanka found batting conditions equally amenable at their second attempt, and it was only inexperience that cost them vital wickets and kept Australia on top for most of the last day. Nevertheless, a defiant seventh wicket partnership between Ravi Ratnayeke and Asoka de Silva kept Australia at bay well into the last session, and threatened to lead Sri Lanka to the safety of a draw. It required a last ditch effort from another Tasmanian participant, Greg Campbell, to remove both batsmen with less than an hour to play, and the gallant Sri Lankans were not finally sunk until 5.30 pm.

The best batting in the match came from Steve Waugh, who, in the second innings, gave a classical display of perfect timing. Mark Taylor, less than twelve months after his Test debut, scored another workmanlike century in the same innings, as did Dean Jones, who was perhaps more fortunate to reach three figures. Earlier, Peter Sleep had played an important undefeated innings of 47 to ensure Australia reached 200. For Sri Lanka, Aravinda de Silva

confirmed his class with two brave seventies, and in addition to Ravi Ratnayeke and Asoka de Silva, Roshan Mahanama demonstrated his powers of concentration in a long first innings.

The bowling honours were shared by Sri Lanka's Rumesh Ratnavake, who took full advantage of the assistance the pitch afforded him on the first day, and Australia's Merv Hughes, who bowled manfully on the last day to help secure a win for his side. Each thoroughly deserved his eight wickets. The match was a dream tourism promotion for a State badly wounded by the pilots' dispute. The Channel 9 cameras often panned out across the picturesque Derwent River with the yachts in full sail. Richie Benaud, Ian Chappell, Bill Lawry and Tony Greig (Channel 9), along with Norman O'Neill and Keith Stackpole (ABC), made long and frequent references to Hobart's position high up the list of attractive Test match venues.

The week passed quickly and, after the match, players and visitors made their way back across Bass Strait, highly satisfied with the world's 51st Test city and 62nd Test ground. There can be only one 'first' Test match for Tasmania, and as the total attendance of 26 780 testifies, there will be many who can look back with satisfaction and claim they were part of it.

* Article contributed by Mr Ric Finlay, cricket historian.



Bellerive Oval.

Photo: Mercury

AUSTRALIA v SRI LANKA

Played at Bellerive Oval, Hobart, 16-20 December 1989, Australia won by 173 runs

Toss won by Sri Lanka. Umpires: S.G. Randell, L.J. King Twelfth men: C.G. Rackemann, S.T. Jayasuriya Attendance: Day 1: 9015, Day 2: 7472, Day 3: 5210, Day 4: 3823, Day 5: 1260.

> Close of Play Scores: Day 1 SL 3-27 Mahanama 18 P.A. De Silva 5 Day 2 Aust 2-25 Taylor 11 Hughes 9 Day 3 Aust 5-387 Jones 51 Waugh 77

Day 4 SL 3-166 P.A. De Silva 64 A. Ranatunga 25 R.J. Tucker (Tasmania) fielded for much of the time for D.C. Boon (injured).

			AUSTRA	LIA								
D.C. Boon c Mahanama b Ratnayak	e		41		- c Ratna	vake b L	ab	roov				0
M.A. Taylor c Tillekeratne b Ratnay	yake		23		- c Gurus	inha b P	A.	De	Silv	va		108
T.M. Moody c Gurusinha b Ratnaya			6	,	- c Tilleke	eratne b	Ra	tnay	ake			5
A.R. Border (C) c E.A.R. De Silva l		yeke	24		- b P.A. I	De Silva						85
D.M. Jones c Tillekeratne b Ratnaya			3		- not out							118
S.R. Waugh c Tillekeratne b Labroc	у		16		- not out							134
P.R. Sleep not out			47									
I.A. Healy (WC) c Tillekeratne b G	urusinha	ì	17									
M.G. Hughes b E.A.R. De Silva			27		- c Gurus	inha b R	latr	ayak	e			30
G.D. Campbell c Mahanama b Ratn T.M. Alderman b Ratnayake	ayake		6									
Extras lb7 w1 nb6			0 14		- b2 lb5 v	.4 1-22						33
311 minutes			224	100	- 540 min	utes					5-5	513
			SRI LAN	IKA								
R.S. Mahanama c Healy b Sleep			85		- lbw b C							5
D. Ranatunga c Moody b Alderman			2		- c Healy		es					45
A.P. Gurusinha c Taylor b Alderma	n		0		- c sub b l							20
E.A.R. De Silva c Border b Campbe P.A. De Silva lbw b Campbell	:11		2		- b Camp							50
A. Ranatunga (C) c Moody b Sleep			75 21		- c Campl)				72 38
H.P. Tillekeratne (WC) c Taylor b S	leen		0		- c Jones							58
J.R. Ratnayeke c Taylor b Hughes	псер		9		- c Waugi			1				75
G.F. Labroov b Hughes			11		- b Hughe		ושטי	(I				5
C.P.H. Ramanayake not out			4		- not out							2
R.J. Ratnayake c Border b Hughes			0		- Ibw b H	ughes						5
Extras lb4 nb3			7		- b9 lb12							25
359 minutes			216		- 551 min	utes					3	348
Fall 1	2	3	4	5	6	7			8	9		10
Australia	-	3		3					0	,		10
	68	83	89	112	123	166		20	17	224	2:	24
	10	77	240	253								
Sri Lanka 1st 11	1.5	10	146	100	100	102		20		216		16
	15 53	18 94	146 187	188 187	192 208	193 332		20 33		216 337		16 48
2114	33	74	107	107	200	332		33	,	331	ی.	+0
Sri Lanka			Bowlin	ig Austi								
J.R. Ratnayeke 15 2 39	1 19	1 8	36 0		Alderman	23	2	71	2	30 12	48	0
G.F. Labroov 19 3 61	1 22				Campbell	23	9	41	2	30 12	102	3
R.J. Ratnayake 19.4 2 66	6 35				Hughes	21.4	6	68	3	31.4 8	88	5
C.P.H. Ramanayake 4 0 21	0 10		19 0	P.R. S	C	10	4	26	3	36 16	73	2
E.A.R. De Silva 9 6 10	1 21		3 0		Waugh	6	3	6	0	20.0	, ,	
A.P. Gurusinha 6 0 20	1				Moody					2 0	9	0
P.A. De Silva	18	1 6	55 2	D.M.	Jones					4 2	5	0
				A.R.	Border					5 4	2	0

8.1.2 Participation in Sport

The Tasmanian Department of Sport and Recreation lists almost 100 different categories of sport for which they have registered participants. Although a person could be registered in more than one sport, total registered participants for the 1988 year totalled 156 000 compared with 166 000 in 1987.

8.1 PARTICIPANTS IN MAJOR SPORTS

Chaut	No. of registered participa				
Sport	1987	1988			
Freshwater fishing	24 107	27 195			
Australian football (league	e) n.a.	18 338			
Cricket - men	19 500	n.a.			
Cricket - women	98	110			
Golf - men	10 206	11 180			
Golf - women	3 800	4 090			
Basketball	7 342	7 950			
Lawn bowls - men	5 000	4 954			
Lawn bowls - women	3 100	3 131			
Lawn tennis	6 000	6 100			
Indoor cricket (federation)	12 600	13 000			
Hockey - men	4 350	4 350			
Hockey - women	2 350	3 194			
Soccer - men	6 565	6 565			
Soccer - women	132	169			
Yachting	4 700	4 800			

8.1.3 Government Support

Tasmanian and Australian sport has generally developed from a local, purely recreational level, to participation at State and international levels. Top level sport in the 80s has become materialistic and will remain so in the 90s, it is reliant on both government and corporate sponsorship.

Government has been actively involved in developing facilities and providing assistance to sports events, sportsmen and sportswomen. In 1988-89 the Tasmanian Government distributed grants totalling nearly \$900 000 through the Department of Sport and Recreation to be shared amongst various State sporting and recreational associations.

Some of the major sporting beneficiaries were the Tasmanian Basketball Association, the Tasmanian Cricket Council and the Tasmanian Football League. These three associations, or associated facilities, received approximately 33 per cent of the value of sporting grants paid by the Department in 1988-89.

8.2 MAJOR STATE GOVERNMENT SPORTING DEVELOPMENT GRANTS, 1988-89

Athletic Association of Tasmania	\$13 250
Australian Surfrider Association	\$12 500
Confederation of Australian Motor Sport	\$10 000
Judo Federation of Australia,	
(Tasmanian Branch)	\$11 200
Sports Development Education Program	\$17 500
Tasmanian Amateur Water Polo Association	\$13 700
Tasmanian Basketball Association	\$32 900
Tasmanian Cricket Council	\$35 000
Tasmanian Football League	\$90 000
Tasmanian Golf Council	\$23 000
Tasmanian Hockey Association	\$10 500
Tasmanian Netball Association	\$21 000
Tasmanian Rowing Council	\$23 500
Tasmanian Squash Rackets	\$10 500
Tasmanian Swimming	\$20 500
Tasmanian Volleyball Association	\$16 700
Tasmanian Women's Hockey Association	\$10 500
Tasmanian Yachting Association	\$12711

The development of appropriate facilities is fundamental to increasing the participation and performance in sport. The Dowling Street Sports Complex (\$1.5 million) and the Penguin Athletic Centre (\$0.9 million) opened in November as a result of continued government funding and involvement.

Other major developments include the upgrading of Lake Barrington to bring it up to international rowing standards. The world rowing championships are to be held there in September 1990. The Bellerive Oval was another beneficiary, it had to be upgraded to test match standard to allow the inaugural test match in December 1989 to proceed. The Government has also shown significant commitment to sponsoring both sporting events and individual sportsman and sportswoman.



Lake Barrington.

Photo: Tasmap Photographics

IS IT A FUN RUN OR A REGATTA?

No matter how it is described, it is a race that is completely different to anything Tasmania, or for that matter Australia, has ever experienced. It is of course the Three Peaks Yacht Race.

The inaugural Three Peaks Yacht Race was held at Easter in 1989 and has now become an annual event. It is sailed in Tasmanian waters and run over Tasmanian mountains.

The boats that compete in the race are confined to a maximum crew of five. Of these, two have to be runners. The two runners on each vessel have to scale a mountain on the completion of each sea-leg, but they don't have to be the same crewmembers each time.

The race is modelled on the famous Barmouth Three Peaks Race which is held on Britain's west-coast during the summer. Mr Martin Pryor, a well known Tasmanian sailing identity, adopted the race concept to Tasmanian conditions. He led the first Australian team in the British Three Peaks Race in 1987.

Conventional yachting rules do not apply in the Three Peaks Race. This means that traditional yachtsman have to adapt to different race conditions. The vessels can, for example, be propelled by any means available except by motor. They may use oars and it is also possible to tow the vessel by jumping ashore and pulling her with a rope.

In the United Kingdom the runners from each team scale Britain's highest peaks on route from Wales to Scotland. In the Tasmanian race the yachts head first for Lady Barron on Flinders Island negotiating tricky currents and sand banks on the way. On arrival at Flinders Island the runners scale Mount Strzelecki, a round trip of 65 km.



Ericsson team members scale Mt Wellington. Photo: Mercury

The next leg takes the yachts south to Wineglass Bay on the Freycinet Peninsula where the runners climb Mount Freycinet and Mount Graham and make a circuit of the peninsula arriving at Coles Bay where they are picked up by their boats. Without their runners, the yachts have to be sailed around the peninsula shorthanded.

The final leg from Coles Bay to Hobart has the added attraction of the Denison Canal at Dunalley. The Denison Canal is renowned for its strong currents and other navigational hazards such as mudbanks. The competitors being unable to motor through, must row or tow the vessel through the canal. The attraction of using the canal is that the competitors can cut an estimated 50 km off their trip. The Denison Canal is a good vantage point for spectators who wish to see the competing vessels. The yachts, after negotiating either the canal or Tasman Island (the longer passage), then head for Hobart. The final running leg up Mount Wellington is undertaken once the yachts are moored at Constitution Dock. Mount Wellington is the highest of the peaks and it is probably the most arduous to conquer. The runners cover 45 km on this leg.

The inaugural race attracted a number of international crews, including the Liverpool Police team which won the Barmouth event in 1987. The trimaran *Verbatim* won the inaugural event in 1989. The skipper and navigator had to complete the final running leg as both the runners aboard *Verbatim* were injured. *Verbatim* proved to be the fastest yacht on the water but the second placed crew on *Miranda Hi-Fi* (a catamaran) had the fastest runners.

The 1990 Three Peaks Race saw three Tasmanian yachts come in first, second and third. They were all mono-hulls. First place went to *Ericsson* which came fourth in the inaugural event, second place went to *Adams Apple* and third was *Hazard-a-Tas*. The *Ericsson* crew, using a pedal-driven propeller, gained a two-minute advantage over the *Adams Apple* crew, their nearest rival, in the race for the summit of Mt Wellington.

8.1.4 Tasmanian Institute of Sport

The Institute was established in 1985 to provide scholarships which would give elite and potentially elite athletes a better chance to improve their performance. The Institute is situated on the campus of the Tasmanian State Institute of Technology in Launceston. The government contributed \$150 000 for scholarships in 1988-89.

8.3 TASMANIAN INSTITUTE OF SPORT SCHOLARSHIPS FOR 1988-89

\$8 000 Scholarship -	
David Connor and Gary Smith	Sailing
\$4 000 Scholarship -	
Gino Fratangelo	Weight-lifting
\$3 500 Scholarships -	
Susan Andrews	Athletics
Todd Apted	Athletics
Darren Edmunds	Athletics
Jocelyn Millar-Cubit	Athletics
Bret Richardson	Tennis
Greg Robertson	Athletics
Janne Ware	Athletics
Jason Roberts	Weight-lifting
Robert Gough	Board sailing
\$2 700 Scholarships -	
Peter Eckhardt	Canoe Slalom
Robert McGuiness	Canoe Slalom
Iain McGregor	Swimming
Adrian Triffett	Swimming
Dean Rose	Athletics
Paul Dobson	Cycling
Joanne Sinclair-Burke	Athletics
\$2 200 Scholarships -	
Sandra Skeggs	Athletics
Alison De Groot	Swimming
Loretta Kiss	Athletics
Gabrielle Printer	Athletics
Troy Bennett	Athletics
Grant Rice	Cycling
Joanna Campbell-Smith	Athletics
Claire Hawthorne	Orienteering
Andrea McQuitty	Canoeing
Christopher Palmer	Judo
Brian Thomas	Judo
Angela Deacon	Judo
Simon Stones	Judo
Cameron Best	Swimming
Scott Goodman	Swimming
Keren McNamara	Swimming
Sarah Gregg	Swimming
\$2 000 Scholarships -	
Guy Belbin	Boxing
Simon Hollingsworth	Athletics
Gail Luke	Athletics
Rodney McCafferty	Athletics
Jonathon Males	Canoe Slalom

Performance and Achievement

Prior to 1989, Tasmanian swimmers had won only five National Age swimming titles. However, during 1988-89 Sarah Gregg and Scott Goodman boosted that tally to nine after they each won the 100 and 200 metre butterfly events in their age group at the Australian Championships.

Iain McGregor was placed third in the 50 metre freestyle final of the Australian Open Championships which made him the first Tasmanian based male swimmer to reach a place at the Australian Open titles since 1968. Iain was a member of the Commonwealth Games training squad.

Other scholarship holders in a variety of sports performed equally impressively, with Robert Gough winning the freestyle division of the Australian Board Sailing Title. Canoe Slalom competitors Peter Eckhardt, Jonathon Males and Robert McGuiness gained selection for the World Canoe Slalom Championships, and Olympians David Connor and Gary Smith successfully defended their Australian Flying Dutchman Title.

8.2 RECREATION

Australians are becoming more aware that participation in satisfying leisure activities can make an enormous contribution to the physical, social and mental well-being of both the individual and the community. While these benefits apply equally to all people, historically, certain sectors of our community have had lower levels of participation in leisure pursuits than others.

In light of the positive benefits which can result from participation in recreation, efforts have been made to promote recreation as an appropriate concept for all Tasmanians.

The Tasmanian Government, through the Department of Sport and Recreation, has provided nearly \$208 000 in the form of grants in 1988-89. The grants are channelled into various associations to upgrade facilities or they may be used to subsidise wage costs.

There has been only one minor capital works grant to note: Weymouth Boating Association - extensions to boat ramp \$10 000.

8.4 MAJOR RECREATIONAL DEVELOPMENT GRANTS, 1988-89

Grant	Amount (\$)
Duke of Edinburgh Award	10 000
Esperance Camp	
(rescue boat purchase)	14 800
Royal Life Saving Society of Australia	12 412
RSVP Hobart	10 500
Surf-Lifesaving Association	18 098
Tasrapid	10 000

In a study carried out by the Economics Department at the University of Tasmania on the effects of spending by Tasmanian residents on outdoor sport and recreation, an estimated \$276 million was spent in 1988. Of this, \$60 million was spent on lump sum payments such as equipment and subscriptions, while the remainder was spent on sessional expenditure including travel, hire of equipment, fees and refreshments.

In a prompted survey within the study, respondents identified their major recreational activities as gardening (58 per cent), walking (39 per cent), picnicking and barbequeing (38 per cent), swimming (29 per cent), fishing (25 per cent) and driving for pleasure (22 per cent).

The survey also identified the proportion of households owning major pieces of recreational equipment. The major items were a camera (74 per cent), fishing rod or line (57 per cent), tennis racquet (49 per cent), bicycle (46 per cent), tent (41 per cent) and a cricket bat (32 per cent).

8.2.1 Art and Culture

The Arts are flourishing in Tasmania, it boasts a vigorous and talented arts community and it has taken special initiatives which are uniquely Tasmanian. The Tasmanian Arts Advisory Board sets programs which address needs peculiar to an island State.

Tasmania leads Australia in several important areas as a result of these programs, they are - art in public buildings, arts-based industry development, community literature and dance in education

The priority of the Tasmanian Arts Advisory Board is encouraging maximum participation of community involvement in the Arts. Attention has been paid to development of programs and organisations which serve the needs of the whole State.

Record Price

An oil painting by Tasmanian artist Geoff Dyer was sold in Hobart in May 1990 for a record price of \$15 000. An exhibition of nine paintings by the artist was held at the Salamanca Place Gallery, three paintings sold for a total of \$32 000 in one night.

An abstract, impressionist double-panel oilon-canvas work titled *Freeway* was a Tasmanian record price for a contemporary work of art - nearly double the previous record of \$8 000 for a work by Kurt Olsson.

The three Dyer paintings which were sold on the opening night were bought by local private collectors.

The Tasmanian Aboriginal Centre organises programs which highlight Tasmanian aboriginal culture. The Centre has organised residential camps at Oyster Cove for aboriginal children

8.5 MAJOR ARTS GRANTS, 1989

	(\$)
Arts Based Industries (traineeships) -	
J. Bright 12.75	50
J. Turner 12.75	
Terrapin Puppet Theatre 12.75	
Community Arts (annual programs) -	
Community Arts Network 30 00	00
Kaleidoscope Arts Company 19 00	00
North-west Community Arts Assoc. 19 00	
Cacti 1630	00
Tasmanian Aboriginal Centre 10 00	00
Multi-Arts (annual programs) -	
Tasmanian Arts Council 78 50	00
Australian Film Institute (State) 10 00	00
Literature (annual programs) -	
Island Magazine 19 00	00
Music (annual programs) -	
North-west Community Music Centre 18 00	00
Theatre (annual programs) -	
Tasdance 199 23	30
Zootango Theatre Company 103 00	00
Theatre Royal Management Board 64 15	54
Terrapin Puppet Theatre 65 33	35
Visual Arts and Crafts (annual programs) -	
Crafts Council of Tasmania 43 00	00
Chameleon 21 00	00
Nat. Exhibitions Touring Scheme 18 76	50
Exhibitions -	
University of Tasmania 16 00	
Cockatoo Workshop 10 00	00
Organisations and Special Grants -	
University of Tasmania (centenary mural) 10 00	00

RELIGION 107

during the summer holidays. The children are taught about aboriginal history and culture, including traditional fishing and cooking methods, artwork and symbolism, and storytelling. About 120 children attended the camps in 1989.

The Tasmanian Government's program of direct assistance to the Arts is a high priority but it also does take particular notice in the housing of audiences and artists in buildings that are attractive and comfortable. The last five years have seen important new developments in the funding and housing of the Arts in Tasmania. These have taken into account developments at the Federal level and in some instances have involved both State and Federal funds.

Tasmania has played host to a number of major film and television productions during the past few years. Most notable are the Japanese production *The Tasmania Story*, a story of conflict between development and conservation groups in the Tasmanian forest industry, and a segment of the ABC television series *The Innovators* on dancer and choreographer Graeme Murphy who spent part of his childhood in the town of Mathinna. Tasmanian ABC-TV won its first *Penguin Award* for the bicentennial production of the Tall Ships Race.

The Tasmanian Symphony Orchestra added to its reputation as one of the best small orchestras in the country when it recorded the theme music for the ABC television series *GP*. In 1988 the orchestra recorded themes for a SBS production *Always Afternoon*, an ABC series the *Four-Minute Mile*, and a joint ABC - Grundy production *Tanemara*. The TSO was awarded an inaugural *Sounds Australian Award 88* by the Australian Music Centre for its presentation of Australian music.

The Tasmanian Symphony Chamber Players scored a 'number one hit' with their compact disc recording of Antonio Vivaldi's *Four Seasons*. It was recorded in the ballroom of Government House. The Players have made several television appearances, including a concert filmed at the Royal Tennis Courts in Hobart. The group headed the bill at the 1989 Music and Heritage Chamber Music Series in Sydney in March 1989.

A bicentennial project, the Maritime Museum, opened in Launceston in December 1988. The museum building, built in 1842 and occupied until 1971 by a wholesaling company, will house important collections of maritime and his-

torical material which Launceston's Queen Victoria Museum had previously been unable to display. The museum will also contain the Queen Victoria Museum's local history collection of significant photographs and documents relating to the history of Northern Tasmania.

Tasmania's European discoverer Abel Tasman, was honoured by another bicentennial project. A granite and bronze fountain, designed by Tasmanian sculptor Stephen Walker, was erected in Salamanca Place. The monument was a gift to the State by the Dutch community and was jointly funded by the State and Dutch governments, local businesses and the local Dutch community. It was opened by Queen Beatrix of the Netherlands in October 1988.

The Salamanca Theatre Company was awarded the \$25 000 Sidney Meyer Performing Arts Group Prize in February 1989 for its Theatre-in-Education performances. The performances, which are seen in primary and secondary schools throughout Tasmania, deal with a wide range of social themes ranging from relationships between different ethnic cultures, through to the crisis in Tasmanian farming and performances of satirical cabaret.

Tasmania plays host to a number of major arts and crafts festivals. They include the Salamanca Arts Festival in Hobart, the Mersey Valley Tasmanian Music Festival at Devonport, and the Circular Head Arts Festival, now in its fifteenth year, which centres around the historic town of Stanley on the north-west coast.

8.3 RELIGION

Religious affiliation by Tasmanians appears to have decreased in recent years. The 1986 Census shows that just under 75 per cent of the population were adherents to various religious groups compared with almost 81 per cent in 1976. The trend shown in Tasmania is also evident in Australia as a whole. In 1976, 80 per cent of the Australian population were affiliated with various religions whilst in 1986 this had fallen to 75 per cent.

The Anglican Church remains the largest of the Christian denominations in Tasmania, accounting for almost 36 per cent of the population. The three other significant denominations, the Catholic Church (18 per cent), the Uniting Church (8 per cent) and the Presbyterian Church (3 per cent) account for a further 29 per cent of the population.

8.6 RELIGIOUS ADHERENTS, TASMANIA

Year	Christian religion	Other religion	Total population
1976	324 241	779	402 856
1981	317 415	1 267	418 962
1986	324 792	1 967	436 353

The overall number of Christian believing people indicating a religious affiliation has fallen in proportion to total population. There has, however, been a large increase in the number of Uniting Church affiliations, which doubled from 1981 (4.2 per cent) to 1986 (8.4 per cent).

8.7 RELIGIOUS AFFILIATION, TASMANIA, 1981 AND 1986

	7717	% of		% of
Religion	1981	popn	1986	popn
Anglican	151 207	36.1	154 748	35.5
Baptist	7 965	1.9	8 092	1.9
Brethren	3 947	0.9	3 856	0.9
Catholic	78 143	18.7	80 479	18.4
Congregational	1 790	0.4	1 241	0.3
Churches of Christ	2 110	0.5	2 046	0.5
Jehovahs Witness	1510	0.3	2 040	0.5
Latterday Saints	1 281	0.3	1 414	0.3
Lutheran	1 631	0.3	1 753	0.3
Orthodox	1 855	0.4	1 960	0.4
Pentecostal	1 357	0.3	1 953	0.4
Presbyterian	11 575	2.8	12 084	2.8
Salvation Army	3 202	0.8	3 437	0.8
Seventh Day	1 777	0.0	3 137	0.0
Adventist	1 464	0.3	1 413	0.3
Uniting Church	37 574	9.0	36 724	8.4
Other Protestant	5 2 1 7	1.2	3 034	0.7
Other Christian	5 577	1.3	8 496	1.9
Total Christian	317414	75.8	324 792	74.4
Non-Christian -				1940
Buddhist	236	0.1	438	0.1
Hindu	n.a.	0.1	305	
Jewish	145	0.0	160	0.1
Muslim	369	0.0	569	0.0
Other Non-Christia		0.1	495	0.1
Other Profit-Christia	ui 313	0.1	493	0.1
Total Non-Christia	n 1263	0.3	1 967	0.5

A New Catholic Bishop For Tasmania

Tasmanians greeted a new leader to the Catholic Church in October 1988. Dr Eric D'Arcy succeeded the late Sir Guilford Young who died earlier that year.

Dr D'Arcy was the Bishop of Sale in Victoria for seven years prior to this appointment. Monsignor Phillip Green, Administrator for the Archdiocese of Hobart commented on Dr D'Arcy's appointment: 'Dr D'Arcy has contributed significantly to the life of the church at the Victorian and national levels. His coming to Tasmania will give stimulus to the life of the Catholic Church, strengthen ecumenical bonds and enrich the life of our society.'

Dr D'Arcy was ordained in 1949 and after several years of parish ministry achieved distinction as a teacher and writer of philosophy. In 1962 Dr D'Arcy became the first Australian-born philosopher to receive an Oxford Doctorate, he also holds degrees from the Melbourne University and Georgian University (Rome).

Dr D'Arcy published a ground-breaking book in 1961, Conscience and its Right to Freedom, which attracted criticism from those who thought it was out of step with the church teaching. However, the arguments were vindicated when the Second Vatican Council issued the Declaration on Religious Liberty.

Dr D'Arcy is able to quickly establish a rapport with his people and in doing so has been able to initiate a number of projects. Whilst in Sale he showed enthusiasm towards initiatives in education and for the young.

During his instalment as the Catholic Bishop, in St Mary's Cathedral, Dr D'Arcy vowed that Tasmania was now his home and he would never leave it. He went on to praise his predecessor, the late Sir Guilford Young, the Church's Centacare Organisation and the Willson Training Centre.

Muslims make up the largest group of non-Christian believers with the Buddhists and Hindus making up the majority of the remaining non-Christian believers. It is significant that there has been a marginal increase in the overall proportion of non-Christian believers from 1981

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(0.3 per cent) to 1986 (0.5 per cent). This increase is partly due to the increase in Asian immigrants into Tasmania.

There has been a large increase in the number of Tasmanians who are now not affiliated with any religion. In 1976, 6.9 per cent of the population professed no religious affiliation compared with 11 per cent by 1986. This pattern follows Australia as a whole but Tasmania remains slightly lower than the Australian average.

8.8 PERSONS WITH NO RELIGION, TASMANIA

Year	Persons	% of population
1976	27 624	6.9
1981	36 222	8.6
1986	47 852	11.0

8.3.1 Welfare Agencies

As well as their usual worship and pastoral roles, the churches continue to provide an active social welfare service for the community and to provide input to a range of contemporary social, welfare and health issues such as child poverty and homelessness, and the AIDS situation. In Tasmania, major welfare assistance is provided by the Salvation Army, Anglican Church (Anglicare, ITeC, the Link), the Catholic Church (Centacare, Willson Training Centre), the city missions and the St Vincent de Paul Society. A number of innovative social welfare and training programs have been started in recent years.

Anglicare

The Anglican Bishop of Tasmania, Phillip Newell, stated: 'Anglicare is the Church caring for homeless young people and families in this State, training the unemployed, providing a financial service to those in debt, preparing people for marriage, mediating family conflicts and counselling for change.'

In 1983 there was no financial counselling service operating within Tasmania. Anglicare Financial Counselling Service, (AFCS), now handles in excess of 1000 clients per year. AFCS finds that most problems are involved with arranging extensions for power, telephone and rent accounts. Those clients who required

extensive counselling usually were suffering severe financial problems as a result of loss of employment, an addition to the family, sickness or marital break-up.

Youth homelessness was thought to be non-existent in 1980. Today, however, there are something like 75 000 young Australians who do not have secure affordable accommodation. The Burdekin Report in early 1989 provided an informed base for the community to understand the nature of youth homelessness.

Youthcare runs the Outreach House and the Shelter. The Outreach House housed 10 young people for varying lengths of time in 1989 whilst the Shelter had some 325 residents, an increase of 15 on the previous year. The Northwest Housing Outreach in Devonport has shown a steady increase in clientele during 1989. They operate the Stewart Street Family Accommodation, Charles Street Youth Units, Archer Street Flats and 'Limani' (for long-term single person accommodation); all have been used to capacity during this period.

Stress within the family unit escalated in the 1980s, although the divorce rate has fallen (largely due to an increase in the numbers of defacto relationships). In an effort to reduce these problems developing within the community, Anglicare has a Marriage Education Programme operating statewide in conjunction with accommodation services available in Devonport. It has also developed the 'Hassles' Family Mediation Service to help cope with the increasing demand for its services.

ITeC and the Job Club are Anglicare agencies which aid the unemployed in today's society. ITeC, or Information Technology, educates the long-term unemployed in the use of computers. Of the 94 people trained so far, 84 per cent of them are now in the workforce despite the fact that the average unemployment period for these people was two years. The Job Club was set up by seven unemployed people in the Burnie Parish, five of these have now managed to find employment.

Centacare

Centacare is the Catholic Church's 'weapon' in the fight against the lowering of welfare standards within Australia, specifically Tasmania. Centacare uses its resources in a variety of ways to aid society by providing assistance for: the needs of married couples; families and individuals; the needs of children; the

needs of lone parents; the Willson Training Centre; migrant welfare work; school support program; and emergency accommodation.

Centacare is one of the two marriage counselling agencies in Tasmania which are approved by the Attorney-Generals Department. Counsellors operate in Hobart, Launceston and Burnie in accordance with the National Association of Catholic Family Agencies.

Childcare workers provide day-time programs with educational and play components. Parents have the opportunity to gain assistance in other areas such as medical, housing and legal issues whilst their children are otherwise involved.

Three programs exist to help the lone- parent family. The Mustard Seed Program covers topics such as parenting, time management, legal issues, budgeting and health issues both for the children and the parents. The Pregnancy and Motherhood Program has been designed to help pregnant young women who wish to continue their pregnancies and give birth to their children. It provides information about prenatal care, labour and delivery and parenting skills. The Residental Holiday Camps Program provides an opportunity for low-income families, predominately lone-parents and their children, to take time out to relax.

The Catholic Refugee Support Group (CRSG) was established during 1989. CRSG's chief task is to co-ordinate the Catholic efforts for resettlement of refugees in the Tasmanian community. Close liaison is maintained with the Department of Immigration, Local Government and Ethnic Affairs and with the relative parishes.

The School Support Program has operated during this year in 28 Catholic schools which are predominately primary schools. The aim of the program is to provide a professional service of social work and general support which will assist in enhancing the well-being of the Catholic School system and help develop the potential of all within the system.

Emergency Accommodation Service aids those families, men, women and children who are temporarily homeless as a result of crisis and helps them to move towards more independent living. Two centres which are in operation are St Joseph's Centre, Taroona (occupancy 154 in 1989) and Barton Lodge, Mowbray (occupancy

248). These operate in conjunction with the Independant Family Accommodation and Support Service which offers accommodation in both Lenah Valley and Hobart. They were able to accommodate 11 families during 1989.

Willson Training Centre

The Willson Training Centre began operations in July 1981. The Centre was set up as part of the Commonwealth Training Program administered by The Commonwealth Department of Employment, Education and Training. It provides training for long-term unemployed people, mainly in the younger age group. Initially four courses were offered to trainees (food preparation, bakery skills, horticulture and concrete moulding). These have been extended progressively over the years and eight courses are now offered. These are: cook's assistant; fast food and bakery; food and beverage; sales and marketing; office skills; general trades assistant and concreting; garden and nursery; and commercial cleaning. These courses are of 13-weeks duration and three full intakes are absorbed each calendar year.

The centre is funded by way of a Commonwealth Grant, paid quarterly, and from funds provided by the Centacare organisation. The Federal Government pays a formal training allowance to trainees during their in-course training which is approximately equivalent to the unemployment rate plus additional benefits.

The Willson Training Centre has the enviable record of almost two-thirds (65.63 per cent) of the total training intake since 1983 having found employment subsequent to their training. This success rate is high and it is expected to improve further as more courses which suit local demand are developed.

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Chapter 9

EDUCATION

In an apparent change from the interest in less formal and more child-centred curricula using open-planned classrooms of the preceding decade, conferences during the late eighties discussed moves towards common curricula in cumulative subjects like mathematics, and a standardised Australian handwriting style.

The Federal Government encouraged this trend and cited the problems experienced by the frequently-transferred families of service personnel and of an increasingly mobile work force.

A parallel and more sensitive concern in all States was how to relocate or re-structure existing schools during a time when overall enrolments have been declining and as changes have occurred in the age profiles of the population in particular tributary areas.

In 1988 the Warrane High School was closed. It had commenced in 1964 as the Flagstaff Gully High School situated near one of Hobart's older Housing Department estates. The proposed change in the use of the site for Technical and Further Education had been locally contested. This will be followed by the closure and consolidation of other State primary and secondary schools in the nineties.

The eighties' government policy of abandoning the previously compulsory zoning of both the State's primary and secondary schools, thereby giving greater freedom of choice to parents, has worked smoothly without causing administrative dislocations through large transfers.

In the tertiary sector student numbers have been increasing; but the amalgamation in 1990 of the three tertiary education institutions, is a



Photo: Tasmap Photographics

further example at a different level, of an attempt to reap benefits from economies of scale in administration while also standardising entry and qualification standards.

In 1869 Tasmania became the first colony in the British Empire to make education compulsory. In 1898 school attendance was made obligatory between the ages of seven and thirteen and in 1912 between six and fourteen years. In 1946 Tasmania became the only Australian State to make attendance compulsory up to the age of sixteen, the starting age remaining at six. Late in 1984 amendments to the

Education Act enabled the Education Department to provide education programs for severely handicapped children up to the age of 18 in places other than recognised schools.

Since 1945 the task of Tasmanian educational authorities, as in other Australian States, has been to provide more schools, more teachers, and better facilities within pressures to restrain expenditure and cater for a wider range of curriculum offerings. The principal factors exerting these pressures were a rapidly growing school population, changed attitudes to education resulting in increased demands for secondary and tertiary education, and general community acceptance of the need for better education.

9.1 EDUCATION TODAY

In recent years the pressures have changed with a growth in the unemployment of school leavers and of the unskilled. In addition, the Federal Government has accepted a greater financial responsibility and provides funds through the Commonwealth Schools Commission and the Tertiary Education Commission.

In 1989 the former Education Department became responsible for Tasmania's library services and similar activities. Its title was changed to the Department of Education and the Arts.

Government institutions provide education in Tasmania at all levels; but non-government bodies, even with government assistance, find secondary schools expensive to commence, and so far have not ventured into any tertiary area apart from a single missionary training college at St Leonards.

In rural areas primary education is generally provided by small government primary schools and district high schools.

In primary schools, classes are usually co-educational and unstreamed with teachers devising programs for children of various ability levels. Pupils progress to the next grade on the basis of their maturity and age rather than on their intellectual attainments.

The primary school curriculum is designed to cater for the mental, physical, social and emotional development of children during their critical formative years. The curriculum emphasises the acquisition of basic language, writing and number skills within the wider context of developing a capacity to communicate, think and value. The school's task is to provide programs that enable each pupil to develop skills appropriate to his or her stage of development and that will foster further learning. These programs also provide for creativity and arousing the imagination as well as giving the opportunity to develop initiative and logical thought processes.



Tasmania prides itself on programs for the arts in primary schools.

On a visit to a wood craftsman's studio, this girl found plenty to capture her attention and interest.

In government schools strict neutrality is observed on religious dogmas and ethics. Legislation gives limited access by outside religious groups to their adherents. Full advantage is seldom taken of this access. On the initiative of the Tasmanian Council of Churches, progress is being made by a committee comprising the main Christian communions, towards a common primary school religious education curriculum.

For 13 years, by invitation of some high schools, a small Christian Option Program, staffed by volunteers has been run by the Scripture Union. The program assumes no background and offers one alternative of many. It has spread to other States. Other groups can similarly be invited to propose alternative lifestyles.

Department of Education and the Arts policy is directed towards integrating children with special needs into normal schools. Special schools provide for children with different forms of handicap and who are unable to benefit from instruction in normal schools. Instruction varies according to the type of handicap. In cases of physical handicap the main need is to maintain normal or near normal individual programs. Schools and classes for intellectually handicapped children follow a program that is tailored to meet individual needs.

Current Department of Education and the Arts policy is directed towards educating children in their local communities. However, parents are free to choose which government school their child attends. There has been positive discrimination towards country children and steps have been taken to make the secondary education available in district high schools comparable with that provided in urban areas. These steps include staffing district high schools more generously than high schools and establishing annexes (selected 11th and 12th grade subject classes) of senior secondary colleges in four country towns. The district high schools with their lower than optimum, and declining numbers, pose a problem to a cost-conscious governcommitted to serving Tasmania's dispersed population. Each type of school draws pupils from outlying localities. Transport is free but the foreshadowed consolidation of high schools in the nineties will involve some longer travelling times for students. In 1989 the responsibility for school buses was passed from the Department of Education and the Arts to Transport Tasmania.

The secondary curriculum provides a general, comprehensive education within a framework of subjects endorsed by the Schools Board of Tasmania. Most Year 7 and 8 pupils follow a common course developed by the school and suited to their needs. In Years 9 and 10 pupils choose a program that satisfies School Certificate requirements as well as allowing them to follow personal interests. Subjects generally are assessed at three levels.

Candidates normally sit for Higher School Certificate subjects at the end of fifth and sixth years of secondary education. The certificate is awarded as a result of assessments completed in November each year which are conducted by the Schools Board of Tasmania. Requirements for matriculation up to the amalgamation of the State's tertiary institutions was determined by the University of Tasmania.

Senior secondary or 'community' colleges were pioneered in Tasmania and now exist in other States. They concentrate on specialist teaching at a few urban centres. The students also benefit from the transitional step between high school and tertiary education.

General admission policy of the colleges is one of 'open door' to most courses. In recent years there has been an increase in the proportion of students passing directly from high and district high schools as well as an increase in mature-age students studying subjects.

Colleges, especially those in the Hobart area, have expanded significantly into the area of late afternoon and evening programming of classes for the large number of mature part-time-students.

Tasmanian Certificate of Education (TCE)

As part of significant changes to the Tasmanian education system, the Higher School Certificate and the School Certificate will be replaced with the Tasmanian Certificate of Education and the method of student assessment will be altered. Controversy involving parents, employer groups and tertiary institutions, accompanies this transition.

The TCE, which will be a certificate covering years nine to 12. It will be trialled on grade nine students in 1990 and will be fully operational by 1992. The new four year certificate will replace the present pass-fail system based on internal percentages and external HSC exam marks. Instead, a system of awards will be introduced which will be marked on the fulfilment of set subject criteria. The awards will be: outstanding achievement (OA), high and satisfactory achievement (HA & SA), and course completed (CC). In addition, teachers will be required to write a comprehensive report on each student's competence in performing the subject criteria.

Students will also be required to keep a record of achievement for each year of their TCE. External exams will still exist in years 11 and 12 under the new certificate, but the award system will be used, not the previous: credit, higher pass, fail ratings. Greater emphasis will also be placed on internal results and on other criteria such as being able to work alone, and using initiative. This will be combined to form a comprehensive portfolio of reports to assist entry into the workforce.

The change in assessment procedures is designed to match and compare students to subject criteria rather than to each other.

A system of determining entry into tertiary institutions has not been finalised.

9.2 PRESCHOOL **EDUCATION**

Until 1969, government preschools were established on the initiative of groups of The Education Department provided buildings but eventually recovered half its outlay from parents.

From 1969 all new facilities for preschool education were provided in kindergartens attached to primary schools. There are now kindergartens which are part of primary schools and others which are not attached to primary schools. Department of Education and the Arts policy aims to provide kindergartens for children of four years and over on 1 January of any given year.

Most preschools are conducted on a sessional basis (i.e. sessions of two to three hours for two to five days per week). Preschool programs generally favour the free play approach with emphasis on children's social and emotional development through creative Parents often contribute by assisting at some session or by the purchase of play materials and educational resources.

At 1 July 1989 there were 150 government schools with attached kindergartens and 22 separate kindergartens with enrolments of 5798 and 761 respectively. Non-government kindergartens form a minor part of total non-government enrolment. No government assistance is received for students enrolled in them.

9.1 PRIMARY SCHOOLS, TASMANIA

	Go	vernment	Non-go	overnment
Particulars	1984	1989 p	1984	1989 p
Number of schools (a)	168	165	42	38
Number of teachers (b) -				
Males	542	506	84	101
Females	1 848	1 642	359	423
Total	2 390	2 148	443	524
Number of pupils (c) -				
Males	19 825	18 892	4 181	4 964
Females	18 489	17 875	4 432	4 940
Total	38 314	36 767	8 613	9 904

⁽a) Excludes primary schools with secondary classes. (b) Full-time equivalents. (c) Includes primary grades in combined primary and secondary schools.

9.3 PRIMARY EDUCATION

Age of entry to preparatory classes is five years and for Year 1, five and a half to six years of age.

Government primary education caters for children from preparatory to Year 6. Government primary schools seldom enrol more than 600 pupils.

In 1989 there were 165 government primary schools. The majority (159) commenced with a preparatory grade and went to Year 6. There were a further 26 schools which were combined primary and secondary schools (district and district high schools). Of the 36 767 pupils enrolled in primary grades in these schools, 18 892 were males and 17 875 were females.

Non-government primary schools seldom enrol more than 400 pupils, and usually have six grades and a preparatory class.

In 1989 there were 38 non-government primary schools. Only 76 per cent commenced with a preparatory grade and went to Year 6. There were a further 23 schools which were combined primary and secondary schools. Of the 9904 pupils enrolled in the primary grades in these schools, 4964 were males and 4940 females.

The percentage of all school pupils who are enrolled in primary grades had been decreasing consistently in the 1980's. However, in 1987,

the percentage started to in-In government schools there had been a fall from 59.9 per cent in 1982 to 55.5 per cent in 1986 while in non-government schools the drop had been from 54.8 per cent to 51.8 per cent. However, the percentages in 1989 for government and non-government schools were 56.6 and 53.8 respectively.

The major cause of the falling proportion of students enrolled in primary grades was the lower birth rates of the 1970s. Higher birth rates in the 1980s will reverse the trend in the next few years.

9.4 SECONDARY EDUCATION

Almost all children attend secondary classes starting at an age from 11 and a half to 13 years. The first four years of secondary education (Years 7 to 10 inclusive) are catered for in high schools or district high schools which are non-selective, comprehensive and provide a broad general education.

All, except two high schools in Hobart, are co-educational. The School Certificate is generally gained at the end of Year 10. The final two years (Years 11 and 12) leading to the Higher School Certificate (which is being phased out), are completed in a secondary college or annexe of a secondary college.

These colleges were pioneered by Tasmania in the early 1960's when the two traditional academic high schools, Hobart and Launceston, phased out their junior classes.

The majority of students studying HSC subjects are in their fifth and sixth year of secondary education. However, an increasing number

are mature-age students; people who have not been enrolled in secondary education for at least 12 months. The increase has coincided with a large increase in parttime enrolment at secondary colleges; in 1984 there were 1824 parttime students while in 1989 there were 2353 part-time students of whom 2056 were mature-age.

In 1989 there were 34 government high schools and 7 secondary colleges in the State. The majority of high schools commenced at Year 7 and went to Year 10. All seven secondary colleges had only Year 11 and 12. In addition, there were the 26 combined primary and sec-

Claremont Education Park

The Claremont Education Park, a new secondary college to serve the northern suburbs of Hobart admitted its first students in 1990. The park combines Year 11 and 12 courses with TAFE technical study centres to be used for the benefit of industry and the wider community.

Enrolment capacity at the park is 650 fulltime students increasing to more than 1000 with part-time students from industry.

The park differs from other secondary colleges as students are catered for by four learning centres rather than traditional subject departments which tends to lead to a narrowing of options when students choose, for example, all math and science subjects.

ondary schools. Of the 27 432 pupils enrolled in secondary grades in these 67 schools 13 975 were males and 13 457 females. There were 2420 teachers in 1989.

In 1989 there were only 5 non-government schools which were wholly secondary. There were a further 23 with combined primary and

9.2 SECONDARY SCHOOLS, TASMANIA

	Gove	ernment	Non-gove	rnment (a)
Particulars	1984	1989 p	1984	1989 p
District and district high schools	26	26		
High schools	33	34	29	28
Secondary colleges	7	7		
Total schools	66	67	29	28
Number of teachers (b) -				
Males	1 407	1 332	209	332
Females	1 013	1 091	258	325
Total	2 420	2 423	467	657
Pupils-				
Year 7-9	19 262	16 036	4 953	4 942
Year 10	5 784	5 549	1 485	1 677
Year 11 and 12	3 590	5 847	1 281	1 784
Total	28 636	27 432	7 719	8 403
Males	14 695	13 975	3 650	3 997
Females	13 941	13 457	4 099	4 406

(a) Includes the secondary classes of combined primary and secondary schools. (b) Full-time equivalents. secondary classes. Of the 18 403 pupils enrolled in secondary grades in these 128 schools, 3997 were males and 4406 females. They were staffed by 657 teachers in 1989.

The trend in secondary grade enrolment is the reverse of primary grade enrolment. As birth rates fell in the 1970s, the proportion of pupils in secondary grades rose. By 1989 the 27 432 secondary grade pupils accounted for 42.2 per cent of total enrolment. The corresponding figure for non-government schools was 45.7 per cent.

Total non-government secondary enrolments have increased 8.9 per cent from 7719 pupils in 1984 to 8403 in 1989. This is at a slower rate than for non-government primary grade enrolments (15 per cent).

9.4.1 Retention Rates in Secondary Schools

Apparent grade retention rates are measures of the tendencies of students to remain in secondary education from Year 7 to Year 10, Year 11 and Year 12. For example, to calculate the apparent retention rate of students in Year 12 in 1989, the number of those students in 1989 is expressed as a percentage of the number of students in Year 7 in 1984 (1984 being the year in which the 1989 Year 12 students would have normally enrolled in Year 7). The retention rate thus derived is called an apparent retention rate because the method and calculation does not explicitly take account of net changes to the

9.3 APPARENT RETENTION RATES SECONDARY SCHOOL STUDENTS, 1989

Years	Male	Female
7-10	95.7	97.3
7-11	50.1	63.4
7-12	36.0	43.6

school population due to migration, nor of those students who spend more than one year in the same grade.

In addition to the above general qualification, some Tasmanian non-government schools have no senior secondary top. Others cannot match the range of subjects offered at the government senior secondary colleges. Transfers from one to the other system at the end of Year 10 are a peculiarly Tasmanian cause of distorting upwards, government school apparent retention rates.

While non-government schools generally have much higher retention rates than government schools, there has been a closing in the gap between government and non-government schools for the Year 7 to 10 retention rate. This was brought about by the difficult job market for early leavers in the 1980s which particularly affected pupils of government schools. From 1 January 1988 unemployment benefits were removed from 16-18 year olds and replaced by a partially means-tested and smaller Job Search

9.4 APPARENT GRADE RETENTION RATES, GOVERNMENT AND NON-GOVERNMENT SECONDARY SCHOOLS, TASMANIA

	Year	Year 7-12 Year 7-11		Year 7-10		
Year	Government	Non- Government	Government	Non- Government	Government	Non- Government
1979	24.8	29.9	28.9	47.2	85.0	96.6
1980	25.5	33.6	28.8	46.2	87.7	96.2
1981	24.3	33.8	30.4	49.4	86.7	95.9
1982 (a)	18.9	36.7	27.9	51.0	86.8	98.9
1983	22.3	35.6	33.1	55.7	88.3	97.9
1984	24.8	40.7	34.6	53.9	89.5	99.5
1985	25.5	42.0	36.6	58.1	91.2	97.9
1986	27.1	44.5	38.1	57.2	91.8	98.3
1987	30.2	44.4	42.3	56.6	93.4	99.1
1988	36.1	43.2	52.2	56.1	94.4	98.3
1989	38.1	45.9	55.6	61.1	96.0	98.2

⁽a) Data used to calculate retention rates to Years 11 and 12 in government schools exclude part-time students. The exclusion of these part-time students causes an apparent decline in retention rates to Years 11 and 12 in government schools between 1981 and 1982.

Allowance. Complementary changes in Supporting Parents Benefits, Supplementary Family Allowances and in the Austudy regulations, reinforced with financial incentives, the earlier inclination of students to stay at school longer.

In government schools the Year 7 to 12 retention rate has increased from 24.8 per cent in 1979 to 38.1 per cent in 1989. The Year 7 to 11 rate has grown from 28.9 per cent in 1979 to 55.6 per cent in 1989. The Year 7 to 10 rate, however reflects the poor employment situation with a rate of 85.0 per cent in 1979 increasing fairly steadily to 96.0 per cent in 1989.

In non-government schools the Year 7 to 12 rate has increased from 29.9 per cent in 1979 to 45.9 per cent in 1989. The Year 7 to 11 rate has grown from 47.2 per cent in 1979 to 61.1 per cent in 1989. The Year 7 to 10 rate, while showing fluctuations over the period, has moved from 96.6 per cent in 1979 to 98.2 per cent in 1989.

9.5 NON-GOVERNMENT OR INDEPENDENT SCHOOLS

Since World War 2, and particularly after the introduction of government assistance to independent schools, changes occurred in the composition of the non-government sector.

The older schools which reflected the pre-World War 2 denominational break-up of the population have continued, with some growth and co-ordination occurring in the Catholic system.

Starting in the 1960's innovative new secular schools grew out of alternative educational philosophies. The programed learning systems favoured by some Gospel Chapels and religious



Calvin Christian School Primary Campus

movements like the charismatic renewal and Ananda Marga, were catalysts for the start of other small primary schools. European migration brought in ideas. Asian migration, to a lesser extent than in other States, introduced new religions.

Parent Controlled Schools

Some new schools have not lasted long; but one Australian success story can be traced from the initiative of 50 Protestant migrants, who in 1954, before the days of State-aid, met at the Youth Hall, Kingston, South of Hobart, and resolved to establish the 'Christian Parent-Controlled School Association'.

In their historian's own words, 'Calvin Christian School was first an idea in the minds of a group of Dutch immigrants who wanted their children to attend a school that gave them a God-centred, Christian education in preference to the man-centred, humanistic education they were receiving in government schools. They brought this idea with them from the The Netherlands where Christian schools were numerous and an accepted part of that country's (tax-financed) education system.'

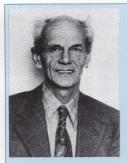
In the beginning the migrants had hoped to get support from the resident local Protestants; but they at that time had traditional loyalties to the free State school system.

Land in Kingston was purchased in 1958. The new school opened in 1962 with 77 students. In 1976 the primary school developed a junior secondary school.

In 1979 a daughter school 'Emmanuel' was successfully 'planted' at Rokeby on the other side of the river Derwent, where the ethnic origins of the parents do not reflect the 'chain migration' which characterised the suburb around the first school. In 1988 'Emmanuel' commenced secondary classes. In 1989 'Channel Christian School' started at Margate.

In 1990 senior secondary classes commenced at the original site in Kingston.

While this growth was occurring in the South, in Launceston, Ulverstone ('Leighland'), and at Smithton ('Circular Head'), similar schools were established. Around Australia over 50 such Parent-Controlled schools, formed subsequent to the Kingston initiative, comprise a loose federation whose supporters share a similar philoso-



A recent Tasmanian Educational Pioneer. Oepke Jelte Hofman was born in Indonesia. He lived in Holland from 1919 to 1938 and then returned to Indonesia to teach in mission and other Christian schools in Java and Sumatra until 1942.

The Japanese invasion resulted in his imprisonment at various camps in Thailand.

In 1946 he was married in Holland, but returned to Indonesia as a headmaster where he served from 1947 to 1952. After migrating to Tasmania, for ten years he worked in Education Department primary schools in various parts of the island. Then he was appointed principal of the Calvin School, Kingston, where he nurtured its growth for the critical first 18 years. Finally he spent a year in Geelong, Victoria, helping to establish a similar school there. He enjoys a well-earned retirement at Margate.

9.6 TERTIARY EDUCATION

From 1974 to 1986 tertiary education was free for award courses in universities, colleges of advanced education and technical and further education institutions (excluding adult education). During 1988 a \$250 a year fee applied to all enrolments. After wide student protests the Federal Government announced in 1989 that this measure would be replaced by an income tax surcharge on qualified students.

Until 1990 the three higher education institutions and other technical and further education (TAFE) all developed independently. In response to Federal Government funding incentives and penalties, which favour large administrative units, Hobart's University of Tasmania (4650 equivalent full-time students), Launceston's Tasmanian State Institute of Technology (TSIT) with 2600 and the Australian Maritime College (700) in September 1989 formally commenced amalgamating. They set up a joint committee which later announced the new title, the Tasmanian State University for the enlarged university with a northern and a southern campus, and appointed a Vice Chancellor.

At the same time an Education Tasmania consortium was set up to market overseas all Tasmanian senior secondary and tertiary courses for full fee-paying students, public and private. South East Asia was the first area targeted.

Northern Campus-1. Known until 1991 as the Tasmanian State Institute of Technology (TSIT)

This campus is a multi-disciplinary higher education college centred in the Launceston suburb of Newnham. It includes two national 'Key Centres'. The first classes for studying aquaculture, the farming of fish, oysters, prawns and other fresh-water and marine organisms, started in 1983 and Aquaculture was designated by the Federal Government a Key Centre in 1988. It was complemented in 1989 with the first intakes to the second, the Air Traffic Service Centre, set up to train Australia's air traffic controllers and flight service officers.

In 1981 the Tasmanian College of Advanced Education transferred its base from Mt Nelson in Hobart to the then Newnham campus of the Launceston Teachers College. All Tasmania's specialist teacher training (Physical Education;

9.5 TASMANIAN STATE INSTITUTE OF TECHNOLOGY ENROLMENTS, 1988

Faculty	Internal full-time	Part-time	Total
Applied and Health Sciences	500	251	751
Business and Computing	234	513	747
Design	309	38	347
Education and Humanities	753	460	1 213
Miscellaneous	2	43	45
Total	1 798	1 305	3 103

Art; Design & Technology; Home Economics; English, Speech & Drama) is still conducted at the Northern Campus.

In 1985 the College was redesignated the TSIT to reflect its emphasis on the disciplines of Applied Science, Business and Information Sciences.

The growth of the Institute since 1981 has been rapid. In 1981 student enrolments were 1519 equivalent full-time students; by 1989 they had increased to 2121, an increase of about 40 per cent. The number of academic staff also increased from 140 to 177 in that period, while the number of general staff increased from 104 to 126.

Perhaps the most significant change has been the phasing out of 16 courses and the introduction of 11 new ones since 1981. Examples of the on-going process of program change during this period involved the establishment of a new School of Nursing, a new School of Applied Computing, and a new Continuing Education Unit.

The School of Nursing was formed in 1981. A pre-registration course, the Diploma of Health Sciences in Nursing, and a post-registration course, the Bachelor of Applied Science in Nursing, were introduced. From 1988 there were no further intakes of student nurses to northern teaching hospitals and the TSIT assumed responsibility for all pre-registration nurse education in the north of the State. By 1990 all registered nurse education in Tasmania will occur at the Institute. In 1988 the School of Applied Computing proposes to offer a new Graduate Diploma in Applied Computing (in addition to the existing Associate Diploma), while a Degree level course will be introduced in 1989.

In 1987 the Legal Practice Course, was completely rewritten and in 1988 the Tasmanian Board of Legal Education was invited to reassess it. It supported the changes and agreed to accredit the Legal Practice Course professionally.

In response to the demand for short courses and seminars, the Institute established the Continuing Education Unit in 1987. Through the External Studies Unit and the Study Centres in Burnie, Devonport and Hobart, Tasmanians in all parts of the State are able to pursue a higher education whilst studying at home, with the

back-up of regional study centres which provide tutorial assistance and a range of study facilities.

The Institute offers a range of applied research and consultancy services to the Tasmanian community. There are significant ongoing research programs in the areas of Applied Science, Architecture, Business Studies, Education and Nursing. In the field of Aquacultural research a project is presently underway, in close association with the Inland Fisheries Commission, to examine the commercial production of all-female Rainbow Trout. These fish will also be triploid and therefore sterile. Early maturation of trout can greatly enhance the fish farmer's potential production. If trials are successful, the production of sea-grown Rainbow Trout in Tasmanian waters will double. The first group of all-female triploid trout was put in the sea in 1988. Aquaculture scientists at the TSIT are also carrying out biological investigations on a new type of sea-farm cage. It is hoped that fish in this cage will grow faster than those in conventional cages.

Northern Campus-2. Known until 1991 as the The Australian Maritime College

The Australian Maritime College comprises a third national 'Key Centre' in Launceston's suburb of Newnham with its School of Fisheries and training vessels at Beauty Point 32 km to the north-west.

The College fisheries courses include the Certificate of Technology in Fisheries Operations, which is designed to cover the knowledge requirements for the master of a large fishing vessel. The fisheries degree course teaches the importance of conservation and management of fisheries resources and also covers the market-

9.6 AUSTRALIAN MARITIME COLLEGE ACADEMIC STAFF AND STUDENTS

	1985	1989
Academic staff-		
Full-time	47	58
Students-		
Full-time	667	988
Short-courses	591	1 500

ing side of the industry. Aspects such as fisheries biology, fish chemistry, seafood handling, processing and marketing and fisheries management are covered.

The Bachelor of Engineering (Maritime) is the only full-length engineering degree offered in the north of the State. It gives specialist training, fitting graduates for careers in ports, harbours and off-shore.

The College also offers courses leading to careers in the merchant navy as an Integrated Rating, or a navigating or engineering officer. Students on these courses are selected by the maritime industry through cadetships.

The Bachelor of Applied Science (Nautical Studies) offers options in ship science, hydrography, navigation and environmental science, and in sea transport and maritime business.

Between 1978 and the end of 1984 the Australian Government invested some \$30 million in developing the College's two locations and installing specialised training facilities. The AMC now has the finest collection of specialist resources for maritime training in the Southern Hemisphere. Facilities include: ship handling, radar and diesel engine simulators; a towing tank and flume tank; a sea transport centre with microcomputing facilities; engineering and electronics workshops; fish biology laboratories and training vessels.

The College's consultancy company, AMC Search Ltd, also makes use of these facilities to provide a wide variety of advisory research and design services to the maritime and fishing industries. Work already undertaken by the company has included port modelling, testing of underwater objects and the design and conduct of special courses to suit clients' needs.

The company has won contracts with the Royal Australian Navy and with a number of Australian Port Authorities. In 1989 it succeeded in gaining its first major overseas contract, with PETRONAS, the Malaysian national oil corporation.

Southern Campus. Known until 1991 as the University of Tasmania.

The University of Tasmania was founded in 1890 and was the fourth university to be established in Australia. Teaching began in 1893 with three lecturers and six students, in Domain House, Hobart.

The site at Sandy Bay was chosen in 1944. Temporary huts were used until 1957 and by 1973 all departments of the then eight faculties were housed in permanent buildings.

By 1988 the university had 10 faculties: Agricultural Science, Arts, Economics and Commerce, Engineering and Surveying, Law, Medicine, Science, the Tasmanian School of Art, the Tasmanian Conservatorium of Music, and the Centre for Education.

Students will normally have completed a full secondary education. There are quotas on new enrolments in some professional courses such as medicine and pharmacy. Although there are provisions for mature-age entry, the majority of students enrol straight from school.

The campus offers full-time and part-time courses as well as external study. In 1989, 71 per cent of students were enrolled in full-time study. Bachelor degree courses comprised 82 per cent of total enrolments.

9.7 UNIVERSITY OF TASMANIA STUDENTS ,1989

Full-time	3 992
Part-time -	
Internal	1 593
External	33
Total	5 618
	拉科伊尔女子主义 的
Males	2 861
Females	2 757
Province Commission Review Control (1997)	
Bachelor degree courses - (a)	
Agricultural Science	62
Fine Art	326
Arts	1 271
Economics	187
Commerce	444
Education	373
Engineering	309
Surveying	40
Law	465
Music	75
Medicine	290
Pharmacy	75
Science	712
Total	4 629

(a) Includes Honours & Postgraduate Bachelor.

Developments

During 1988 and 1989 several facilities were completed, continued or started. In 1988 the university was successful in achieving 'Key Centre' funding for the Institute of Antarctic

and Southern Ocean Studies. Work commenced on a building to jointly house that centre and computer science facilities and a joint science library. In particular this should remove a previous restriction on the growing number of students studying computer science. The Menzies Centre for Population Health Research within the Faculty of Medicine has now been researching for two years in the areas of, sudden infant death syndrome, cardiovascular disease and cancer.

9.8 UNIVERSITY OF TASMANIA, DEGREES CONFERRED, 1989 (a)

Higher Degrees		
Award gained	No.	
Higher Doctor	2	
Doctor of Philosophy	31	
Master	76	
Total	109	

Bachelor Degrees			
Course	Honours	Pass	
Agricultural Science		5	
Arts	32	148	
Commerce		59	
Economics	7	31	
Engineering	16	27	
Surveying	1	7	
Education	4	99	
Special Education			
Law	6	43	
Medical Science	2	54	
Medicine/Surgery	2 3 3	45	
Pharmacy	3	17	
Science	37	111	
Science/Engineering			
Arts/Law	1	11	
Commerce/Law		2	
Economics/Law	5		
Science/Law			
Fine Art		55	
Music	3	14	
Total	115	733	

As the buildings on the campus begin to age, focus has broadened from the construction of new buildings to the re-furbishing of older ones. Chemistry, the oldest building has been upgraded. The Law School building was extended. A re-modelling of the University Union building was officially opened in 1988. A new

(a) Completed 1988.

storey was built on top of the Geography/Geology building. Car parking and student accommodation are both regularly expanded.

Research

Like other universities, the Tasmanian State University has a dual purpose, teaching and research. Research funds are received from the Federal Government as recommended by the Department of Employment, Education and Training, from other public bodies and from the private sector. In 1988 expenditure on research was more than \$6 million.

9.9 UNIVERSITY OF TASMANIA, TEACHING AND RESEARCH STAFF (a), 1989

Teaching -	
Full-time -	
Professors	31
Readers	40
Senior lecturers & lecturers	257
Demonstrators, tutors,	
teaching fellows	51
Total	379
	10
Part-time -	
Senior lecturers & lecturers	0.81
Demonstrators, tutors,	
teaching fellows	0.95
Total	1.76
Research -	
Full-time	75
Part-time	18.6
Other staff-	
Full-time	55.9
Part-time	48.1

(a) Full-time equivalent units.

During 1988 the university's research company was refinanced and reformed as a company limited by guarantee which now operates under the trading name 'Tasuni Research'. Its object is to commercialise research on the campus with emphasis at first upon 'the delivery of particular testing and technology transfer services'. Current links with industry include work on essential oils in the Agricultural Science faculty, a study of the chemistry of pulp production and paper making in conjunction with Australian Newsprint Mills Pty Ltd, and a program in ore deposit and ore genesis with funding from a number of mining companies.

9.7 TECHNICAL AND FURTHER EDUCATION

Technical and further education, which includes adult education, is provided at colleges at Hobart, Launceston, Devonport, Burnie and Queenstown and a number of separately provided but administratively linked adult education centres run by the Division of Technical and Further Education of the Department of Education and the Arts. Centres in Smithton, Scottsdale, Campbell Town, Oatlands and Huonville provide a limited range of courses.

9.7.1 Technical Education

Technical courses are designed in consultation with industry and on successful completion, a student is awarded a certificate. A number of these courses have been nationally registered by the Australian Council of Tertiary Awards. In 1987 a new State TAFE accreditation system was introduced.

Associate diploma courses meet the increasing needs of para-professional personnel in areas such as engineering, accounting, computing, child care and social welfare.

Trade courses combine theoretical and practical aspects of the trade and are complementary to employer training given to apprentices. 'Block-release' of apprentices for periods of two to three weeks at a time in a technical college has replaced day release and correspondence courses for some trades. Post-trade courses are available to extend the skills and knowledge of trades people.

Vocational courses provide for non-apprentice training and include fashion, clothing manufacture, supervision, commercial and secretarial studies.

Correspondence courses for isolated students and others who are unable to attend regular classes are administered through the Hobart Technical College. In 1990 a new accommodation block for 90 students will be completed for the Hobart Technical College on the Eastern Shore of the Derwent at the old Warrane High School site.

In 1987 total enrolments were 18 956 in technical courses.

9.7.2 Adult Education

Adult Education operates throughout Tasmania as part of the Department of Education and the Arts with major centres in Hobart, Launceston, Devonport, Burnie, Queenstown and Campbell Town. The Southern centres at South Hobart, Eastern Shore/Rosny/Rokeby, Glenorchy, Kingston and the Huon now operate under the Domain House College of Adult Education with enrolments, administration and enquiries centralised at Domain House. Small centres operate at Oatlands and Wynyard.

A wide range of activities from whole term courses to full weekend, single day or shorter workshops is offered. The Grange Residential College at Campbell Town features live-in activities in the form of weekend workshops, and longer summer school activities. Five subject areas include creative and performing arts, home skills, work and business skills, languages, personal well-being, owner building, Aboriginal education, migrant education, basic education, literacy, etc. The characteristic of its work is to start innovative programs and respond to community needs.

In 1988 Adult Education activities attracted 21 982 students to its programs around Tasmania, reflecting rapid growth since the late 1970s

9.8 LIBRARIES

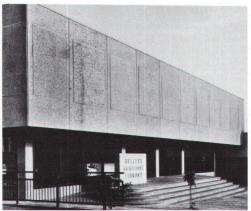
Tasmania is served by a network of different types of libraries, almost all of which have some computerised information and cataloguing services.

9.8.1 The State Library

Public library services throughout Tasmania are provided and managed by the Department of Education and the Arts through the Division of Regional Library Services. This is a statewide organisation of seven Regional library systems comprising regional and branch libraries, bookmobiles and depot libraries. Approximately 4.4 million items were borrowed in 1988-89 from regional library systems and 57 000 reference inquiries serviced. Three new library buildings were opened in 1988-99, a regional headquarters at Rosny Park, and new branches at Sorell and Zeehan.

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Other collections and services provided by the department include: the Archives Office of Tasmania which is responsible for the custody, preservation and use of the States archives: the Tasmanian library which collects all material published in Tasmania, all items about Tasmania and Tasmanians, wherever published, and all material written by Tasmanians or long term residents: a Bindery: a Recorded book service: a Housebound service which has patrons in Hobart alone.



Hellyer Regional Library.

Developments within the department in the last two years include, the publishing of a printed directory of the Tasmanian Index of Community Organisations (2139 organisations in 1989) database, and the publishing of a major bibliographic work 'Original Style', listing books and other sources of information about old house restoration.

In March 1989 the State Reference Library staged a display of the Irish Transportation Records, which are microfilmed records of convicts transported from Ireland to Australia between 1788 and 1869 and include a computerised index.

From early 1990 an anonymously donated Kurzweil Personal Reader has enabled the sight-impaired to access printed materials by converting the print into synthetic speech.

9.8.2 Special Libraries

There are approximately 68 special libraries within the State serving State and Commonwealth government departments and private industry. Approximately 55 of these are under some sort of professional control by a librarian.

The Government Library and Information Service (GLIS) manages library and information services to the State government sector through agreements between the State Librarian and Heads of Agencies. The librarian of each agency reports to the senior librarian of GLIS.

There were 17 special libraries within the GLIS system serving 26 State government departments. With the 1989 reduction in the number of departments, their libraries in due course will be consequentially restructured.

These special libraries include those for 'The State Offices' library, The Hydro Electric Commission, Forestry, the Mines Department, Transport Tasmania and Health Services.

The Parliamentary library is not part of the GLIS system however the State Librarian has the power to make arrangements with the Parliamentary library committee for the provision of services for the members and officers of Parliament.

There are a few special libraries serving Commonwealth government departments. These include The Commonwealth Scientific and Industrial Research Organization, The Attorney General's and The Australian Bureau of Statistics.

Other special libraries include those that service private industry within the State such as Australian Newsprint Mills and The Electrolytic Zinc Company.

9.8.3 Academic Libraries

The University's Southern Campus maintains one of the largest libraries in the State. The central and branch university libraries together hold over 700 000 library materials.

The new Multi-purpose building houses a new Engineering/Physical sciences library. This centralises several small Departmental libraries. As well as this new library there is a Life sciences library, a Law library, a Clinical library, a Fine Arts library and a Music library.

The Northern Campus (former TSIT) library holds over 175 000 library materials.

9.8.4 Education Libraries

The Department of Education and the Arts has libraries under professional control in 130 of its colleges and schools. In addition to this there

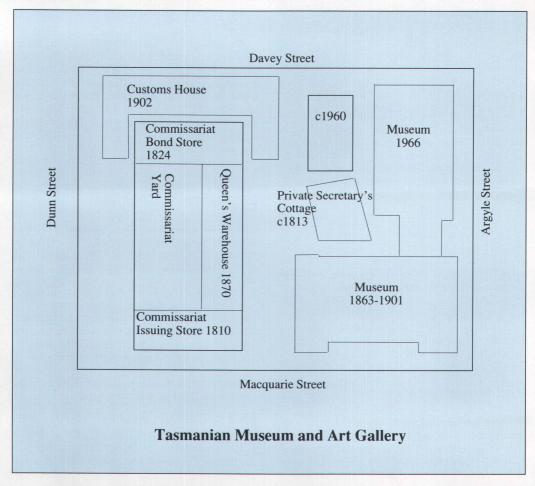
is an Education Department library and a Media library. The former is a special library with strong book and journal collections in all major fields of education; the latter is a very active lender of video tapes, kits and films to all schools and colleges throughout the State.

There are also Curriculum Resource Centres in Hobart, Launceston and Burnie. Other educational libraries include those within Technical and Further Education and the libraries of nongovernment schools.

9.9 MUSEUMS

The Tasmanian Museum and Art Gallery has its origins in early scientific groups formed in Hobart Town in the 1820s and 1830s.

In 1852 the Royal Society of Tasmania established a museum which was later vested in a Government Board of Trustees in 1885. The first building on the present site, on the corner of Argyle and Macquarie Streets, was designed by the city's best-known colonial architect, Henry Hunter (1832-1892), and completed in 1863. Later additions were made in 1889, 1901, 1966 and 1979. In 1987 work resumed on the restoration of the Private Secretary's Cottage, located within the city block partially occupied by the museums buildings and dating back to at least 1815, with the assistance of a grant from the National Trust Preservation Fund (Hobart). In 1988, the Commissariat Bond Store, built in 1824 and facing the Campbell St frontage of the same block, was partially restored. It will be used to house exhibitions following the broad theme of human involvement in Tasmania.



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In July 1988 after years of public discussion in the media, the remaining collection of Tasmanian Aboriginal bones held under the *Museums (Aboriginal Remains) Act* of 1984, were handed over to the Aboriginal Trustees appointed under the Act.

The income of the Museum is provided mainly by an annual grant from the State Government supplemented by a contribution from the Hobart City Council. Over 120 000 people visit the Museum and Art Gallery each year.

The Tasmanian Museum and Art Gallery houses collections in the fields of fine and applied art, zoology, geology, botany, history, anthropology and applied science. It is an integrated institution concerned with the whole range of natural and human heritage with particular emphasis on Tasmanian exhibits.

The Museum's traditional function, and still the major part of its operation today, is to collect, conserve, study and display items of cultural or scientific value to the community. It now performs a wide variety of additional roles, which include a continuing program of travelling exhibitions and a school education service which utilised the *Musbus*, a van specially equipped for transporting museum displays.

The Tasmanian Herbarium, housed in a new building completed in 1987 at the southern campus of the State University, is part of the Museum. It includes specimens collected early in Tasmania's history by R.C.Gunn, many of which are type specimens. Other early collectors represented include Archer, Meredith, Milligan, Stuart and Spicer. The Herbarium's current holdings number about 120 000 specimens of Tasmanian plants.

The West Coast Pioneers' Memorial Museum at Zeehan has operated as a branch of the Tasmanian Museum since 1965. It deals with the history of the West Coast of Tasmania, with an emphasis on mining, and is visited by about 100 000 people each year.

The Local Advisory Committee, with the support of the Trustees, has put great enthusiasm and skill into a development proposal which includes the establishment of an underground mine with displays, together with a working electric railway and aerial ropeway. The Mt Farrell mine head-frame was removed from Tullah and re-erected at the site of the proposed mine shaft with Army, Hydro-electric Commis-

sion and Electrolytic Zinc Co. assistance. The Army also recovered a stamp battery from the Kelvin Mine, a blast furnace from the Coleback Mine and draw-lift beam-pump components from the Sterling Mine. Navy personnel recovered two steam engines and a boiler from derelict vessels at West Strahan.

Parallelling a growth in tourism, small collections on public view have developed throughout the island. The following received advice in 1988 and 1989 from staff at the Hobart museum: Van Diemen's Land Memorial Folk Museum, Battery Point; Huon Valley Apple Industry and Heritage Museum, Grove; Channel Historical and Folk Museum, Snug; Rosny Pioneer Village project; Callington Mill, Oatlands; Maritime Museum, Battery Point; Military Museum, Anglesea Barracks; The Shot Tower, Taroona; Swansea Bark Mill and East Coast Museum; St Helens History Room; The Pioneer Village Museum, Burnie.

9.9.1 Special Exhibitions

Within the limited resources of the Tasmanian Museum and Art Gallery, standing displays are regularly changed and visiting exhibitions are mounted. A special effort additional to the usual program of temporary exhibitions, was made to celebrate the Bicentennial Year with four major exhibitions for which small entrance charges were made:

- 'Irish Gold and Silver' was organised by the National Museum of Ireland and the National Gallery of Victoria.
- 'Shipwreck!' Discoveries from our earliest shipwrecks, 1622-1797 was organised by the Museum of Victoria in association with Western Australian Museum and the Queensland Museum and was opened in the presence of the Queen and Crown Prince of the Netherlands.
- 'The Great Australian Art Exhibition 1788-1988'. An overview of highlights of Australian art over the period, examples selected by the Director and Curator of the Art Gallery of South Australia.
- 'First Impressions' The British discovery of Australia organised by the British Museum (Natural History) London in association with the Museum of Victoria.

9.9.2 Queen Victoria Museum and Art Gallery

The Queen Victoria Museum and Art Gallery was established by the Tasmanian Government in 1891. Since 1895 its management has been vested in the Launceston Corporation with financial support from an annual State Government grant.

In 1989 the museum employed 35 full-time staff. It serves primarily the northern half of Tasmania, its public galleries contain collections and exhibits of special relevance to the natural and cultural environment of Tasmania. Education, research and information services are provided.

The Museum operated the only Planetarium in Tasmania. Regular sessions are conducted for both the general public and for school groups. The Museum also has its own air-conditioned theatrette seating 166 people and a reference library of scientific and historical books and journals. The colonial painting collection is one of the finest in Australia and there are also extensive collections of Tasmanian animals, plants, artifacts, geological specimens, historical material, craft, decorative art and fine art.

The education office of the Queen Victoria Museum and Art Gallery provides a service to schools throughout northern Tasmania, lending a wide range of items for teaching aids and assisting with teaching programs in the public galleries. It also operates a small travelling bus which visits schools in the north and north-east of the State.

The Museum's main annexe is Macquarie House in Launceston's Civic Square. The displays within Macquarie House centre on Launceston's history, through the theme of its architecture. As well, the two smaller annexes at Launceston's Cataract Gorge, the Band Rotunda and the Gorge Interpretation Centre, have displays emphasising the historic, recreation and cultural importance of the Gorge to the Launceston community.

The Museum has three temporary exhibition galleries which have a constantly changing display program. In 1989 there were 28 temporary exhibitions, 18 of which were produced within the Museum. Major touring exhibitions which require strict atmospheric control can now be accommodated on account of the 1989 installation of air conditioning in the Southern Gallery

and the art store. The first of these exhibitions was 'Angry Penguins and Realist Painting in Melbourne in the 1940's'. The Museum instigates its own touring exhibitions. 'Bones and Bunyips' travelled to the USA in 1989. Research included the l6th year of forest ecology study at Maggs Mountain, evolution in tiger snake populations in the Furneaux group of islands and a botanical survey of the mountain Ben Lomond.

The Maritime Museum is in the architecturally unique Johnstone and Wilmot building built in 1842. This Museum features displays on Launceston's maritime heritage, illustrated with numerous photos, paintings and shipping relics including scrimshaw and models.

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Chapter 10

HEALTH

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Chapter 10

HEALTH

The desire to attain good health is universal. Throughout history man has always endeavoured to protect his health, at first by devising techniques and selecting special individuals to ward off 'evil spirits'. Observation and experience gradually identified ways for keeping well. Laws were developed to govern health and, as large communities developed, methods of sanitation were devised. But it was not until the 1800s with the discovery that germs caused disease, that significant advances in man's understanding of, and ability to successfully treat, illness were made.

Yet, for all the knowledge and resources now directed towards attaining good health, death, disease, injury and illness are still part of everyday life, present everywhere and touching all of us.

10.1 MORTALITY

In 1988 the deaths of 3547 resident Tasmanians were recorded. This was 90 fewer than the 1987 figure of 3637, and represents a crude death rate of 7.91 per 1000 mean population. Of the deaths, 1908 were males and 1639 were females, a ratio of 116 males for every 100 female deaths.

Up until age 75 male deaths outnumbered female deaths. The reversal in the 75 and over age group occurs because of the higher number of females of that age in the population. In all groups the age-specific death rate of males is higher than that of females and for most age groups the male rate is almost twice the female rate. The death rate among infants, children aged less than one year, is considerably higher for males than for females.

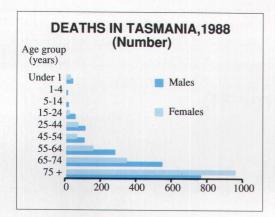


Launceston General Hospital, stage 2 completed. Photo: Launceston General Hospital

10.1 DEATHS IN TASMANIA, 1988

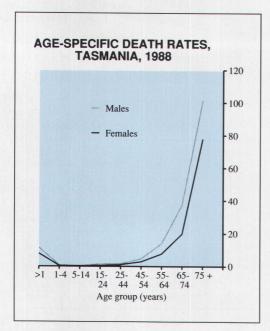
Age group (years)	Males	Females	Persons
Under 1	39	26	65
1-4	10	5	15
5-14	14	5	19
15-24	53	20	73
25-44	109	69	178
45-54	104	61	165
55-64	277	153	430
65-74	542	343	885
75 and over	760	957	1 717
Total	1 908	1 639	3 547

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10.2 AGE-SPECIFIC DEATH RATES, TASMANIA, 1988

Age group (years)	Males	Females
Under 1	11.36	7.77
1-4	0.70	0.36
5-14	0.39	0.15
15-24	1.45	0.56
25-44	1.60	1.02
45-54	4.62	2.79
55-64	13.90	7.70
65-74	37.69	19.91
75 and over	101.33	77.93
All ages	8.57	7.26



10.1.1 Causes of Death

Four causes of death accounted for just over two thirds of all deaths registered in 1988. These were Ischaemic heart disease (26.0 per cent), cancers (25.2 per cent), strokes (9.4 per cent), and accidents, poisonings and violence (6.7 per cent).

Most deaths among people aged from 1 to 44 years result from motor vehicle traffic accidents, and suicide and self-inflicted injuries. These causes account for over one third (39 per cent) of all male deaths, and one quarter (25 per cent) of all female deaths in that age group.

10.3 PRINCIPAL CAUSES OF DEATH, TASMANIA, 1988

	Proportion of all deaths	Number	
Cause		Males	Females
Ischaemic heart			
disease	26.0	531	390
Malignant neoplasm	25.2	503	392
Cerebrovascular			
diseases	9.4	145	187
Accidents, suicides			
and violence	6.7	174	64

Around the ages 35 to 40 years a change in the pattern of death takes place. In the 25 to 44 year age group diseases of the circulatory system account for the deaths of 18 per cent of males. This figure jumps to 39 per cent for males aged between 45 and 64 years.

Cancer also becomes significant. Two broad groups, malignant neoplasms of the digestive organs and peritoneum (which includes 'stomach' and 'bowel' cancer), and lung cancer account for most cancer deaths. Sixteen per cent of male deaths between 1 and 44 years are due to various forms of cancer. This figure triples to 38 per cent for males between 45 and 64.

While the predominant causes of death among women are similar, the pattern differs in that cancers are initially more prevalent than diseases associated with the circulatory system. Cancer in women below 25 year was virtually non-existent in 1988, but accounted for 43 per

10.4 MAIN CAUSES OF DEATH AT SELECTED AGES, TASMANIA, 1988

Cause		Male	Female
	Under 1 year age gr	оир	
Conditions or:	ginating in the		
perinatal per	riod	14	8
Congenital an		10	9
	death syndrome	13	5
Other causes		2	4
All causes		39	26
	1 to 14 year age gre	оир	
Other acciden	traffic accidents ts, poisonings and	3	2
violence Other causes		5	2
		16	6
All causes		24	10
	15 to 24 year age gr	оир	
	traffic accidents	22	9
	lf-inflicted injuries	16	5
Other causes	ts and violence	7 8	i
			6
All causes		53	20
	25 to 44 year age gr	оир	
Accidents, poi	sonings and violence	49	11
Neoplasm		23	30
including he	e circulatory system	20	9
Other causes	art disease	17	19
All causes		109	69
	45 to 64 year age gr		07
Diseases of the	e circulatory system		
including he		149	64
Neoplasms		146	91
Accidents, poi	sonings and violence	32	14
	e respiratory system	16	13
Other causes		38	32
All causes		381	214
	65 to 74 year age gr	оир	
	e circulatory system		
including he	art disease	249	150
Neoplasms	-continutory over	181 58	108
	e respiratory system sonings and violence	17	23
Other causes	somings and violence	37	56
All causes		542	343
	75 years and over age	group	
PROPERTY AND ADDRESS OF THE	circulatory system		
including he		411	580
Neoplasms		148	162
	respiratory system	85	49
Other causes	e digestive system	23	43
		93	123
All causes		760	957

cent of deaths of those aged between 25 and 44 years. Half of these were cases of breast cancer.

Diseases of the circulatory system are responsible for 13 per cent of the deaths of women in the 25 to 44 year age group. The proportion rises to 44 per cent in the 65 to 74 year age group, then to 61 per cent for those 75 years and over. Diseases of the respiratory system account for fewer female than male deaths.

10.2 HEALTH SERVICES

(Condensed from an article contributed by the Department of Health.)

The year 1987-88 was one of marked evolution in the delivery of health services in Tasmania. It has seen the introduction of a progressive community health service and increased emphasis on preventive medicine. At the same time substantial capital works have been undertaken to ensure that hospital based services and standards are not only maintained, but also continuously upgraded.

Major goals achieved by the agency during the year have been in the areas of Community Health, Health Education, Training and Development, and implementation of "TAHDIS", the Tasmanian Health Department's information system.

When complete in 1989-90 TAHDIS will project Tasmania to the forefront of health management technology in Australia by linking the Department of Health Services data and information systems with those of the four acute hospitals - Hobart, Launceston, Burnie and Devonport.

The Government's decision to regroup community health and home care services into a single Division of Community Health introduced a new era of support for the elderly and those persons in the community less able to attend to their essential needs. Future emphasis on health promotion and illness prevention will be a feature of this change.

During the year the central effort of health promotion has been directed towards drug abuse and precautions to reduce the incidence of measles.

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10.2.1 Significant Issues and Initiatives

Hospital Development

Capital works expenditure increased by \$14.2 million in 1987-88 and the major projects to which these funds were directed were the Launceston General Hospital Stage II development and the Mersey General Hospital redevelopment. As well, \$1.1 million was spent on upgrading facilities at the Royal Hobart Hospital including the completion of a new angiography suite.

Legislation

In 1987-88 the Government brought down an act to prescribe the law in relation to the sale of condoms. This has been welcomed by health educators as being important in the prevention of sexually transmitted diseases including AIDS.

Computer Services

The development of an integrated statewide health sector computer network is well underway after the signing of a contract with the McDonnell Douglas corporation. The development of a software package to assist in drug surveillance and tracking within the pharmaceutical area won a Silver Award for the Computer Services Branch from the Commonwealth Technology in Government Committee.

Cancer Registry

The population based Cancer Registry that was co-ordinated in the Department of Health since 1977 was transferred to the newly established Menzies Centre for Population Health Research. This will facilitate the use of the Registry as a research tool.

Health Education

The Department of Health in conjunction with the Department of Sport and Recreation, established the Feeling Good Shop in the Hobart central city area. The shop aims to encourage responsible attitudes to health care in individuals leading to an improved quality of life for all Tasmanians. Another important activity was the launch of the National Alcohol Campaign as part of the campaign against drug abuse.

Nursing Issues

An agreement between the Federal and State Governments facilitating the transfer of nursing education was signed in December 1986. This historic event made it possible to increase the nursing student places at the Tasmanian Institute of Technology to 90 in 1987.

In 1988 the northern hospital based schools discontinued student intakes and 123 students commenced the Diploma of Health Science (Nursing) course at the TSIT in the first stage of the transfer of nursing education to the tertiary sector, which is to be completed in 1992.

Career Structure

A new career structure for Tasmanian nurses was instituted after the structures in South Australia and Victoria were investigated.



The Feeling Good Shop was established in Hobart to encourage responsible attitudes to health Photo: Tasmap Photographic

10.2.2 AIDS Unit

The AIDS Unit is a Health Department Unit offering education, training and resources, as well as counselling and support services for both client and carer. It is responsible for state-wide programs involving treatment of HIV and sexually transmitted diseases, including prevention of spread of infection, and acts in consultation with groups wishing to implement policy and educate workers.

It is composed of three counsellors (each of whom carries a caseload), an educator, a medical director, policy and planning person and a resource person. It is represented on the Inter-Governmental Committee on AIDS which is the national body involved in implementing the White Paper policy on AIDS.

In the absence of a cure or vaccine for HIV infection, education continues to be one of the most important tools in minimising the effect of HIV on the Tasmanian population. The Unit is involved continually in educational programs for specific groups and for the general community. Education is offered for all and any group in the community: professional health workers, public service departments, private enterprise, hospitals and institutions, ethnic groups, at risk groups, churches, schools and the prison. Initial and follow-up sessions are offered which are usually to large audiences and are mainly factual, a first-wave education.

The Unit also offers training programs for those in the workplace. For these smaller audiences, the delivery is more interactional and deals with:

- the factual information on the science of the disease;
- integration and personalising this information. This involves the audience members examining their own attitudes, concerns and strengths;
- strategies useful in helping others to deal with HIV related matters.

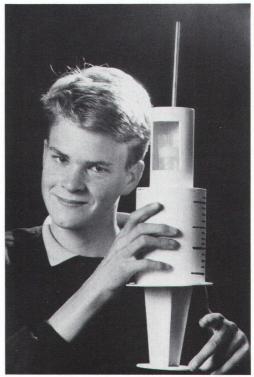
Similarly information and resource distribution is important and the Unit offers:

- regular mailouts of pamphlets, updated epidemiological information and material on safe practices;
- a collection of videos on infection control, counselling for doctors, documentaries, debates and lectures on HIV issues;
- the Albion Street Centre Manual which is the definitive AIDS manual in Australia.

One of the main functions of the Unit is to provide counselling and support to individuals and their families in relation to HIV matters. The Unit also offers pre and post-test counselling as well as counselling regarding at risk behaviours and, more specifically, the at risk practices of anal sex and needle sharing which spread the virus. A bipartisan approach is adopted and tailored to the client. Some are willing to be referred to drug rehabilitation centres; others may only be willing to adopt safe needle using or safer sex practices.

The AIDS Unit works with non-government organisations, such as the Haemophilia Association and the Tasmanian AIDS Council, which are community based; they grow from people in the community who are concerned about an issue and who form an association and then seek funding. They are in a position to more effectively reach at risk groups which shy away from health departments and government agencies and are easily driven underground away from testing, treatment, and support services.

The figures on HIV and AIDS are startling. The estimated direct costs in Australia are \$40 000 per AIDS patient per annum. This excludes indirect costs such as loss of earnings. The World Health Organisation estimates that there are 5-10 million people infected worldwide with the virus and 500 000 who have progressed to AIDS. The rate of progression from HIV infection to a diagnosis of AIDS is estimated at 50 per cent of those exposed developing AIDS within 10 years. Australia has registered over 1450 people with AIDS and it is estimated that 15 000 - 25 000 people are HIV infected. The highest risk activities are needle



Peter Grose won the State AMP Beyond 2000 Award in Science and Technology with a single-use syringe. Photo: Mercury

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sharing and unprotected anal intercourse. The first epidemic was in homosexual/bisexual groups, especially those practising unprotected anal intercourse. The second epidemic is in intravenous drug users who share needles. The third epidemic is in the heterosexual partners of the intravenous drug user. These represent the bridge to the rest of the community.

Fifty known HIV positive people, two of whom are female, have been tested in Tasmania. There have been 13 known AIDS cases, seven of whom have died. Not all of these people were initially diagnosed in Tasmania. Therefore figures released from the National Health and Medical Research Council Special Unit in AIDS Epidemiology, which collects information in each State on newly diagnosed cases only, are usually lower. In addition, it is not known how many people have moved interstate, or how many cases from interstate have moved to Tasmania.

10.5 PERSONS TESTED HIV POSITIVE, TASMANIA

Transmission category	HIV infection (not AIDS)	AIDS	Total
Homosexual/bisexual	20	10	30
Homosexual/bisexual			
intravenous drug user	1	-	1
Intravenous drug user	2	- 2	2
Haemophilia	6	2	8
Blood transfusion			
recipients	3		3
Heterosexual	2	1	3
Unknown	3	10-1	3
Total	37	13	50

10.3 OCCUPATIONAL HEALTH AND SAFETY

The legislation covering health and in safety at workplaces Tasmania administered bv the Department **Industrial** Employment, Relations Training, and the Department of Resources and Energy via the Industrial, Safety Health and Welfare Act (1977) and Regulations and the Mines Inspection Act (1975) with its Regulations.

The Occupational Health Branch of the Department of Health provides expert advice on medical, health and industrial hygiene aspects of the workplace to government departments, private industry, unions and individuals on request. In the last year cost recovery mechanisms have been introduced and if anything these have stimulated demand for these services.

The branch has the most comprehensive collection of air sampling equipment to monitor the dusts and chemicals in the workplace. Recently completed projects have included airborne monitoring of dust levels during asbestos removal, heat stress monitoring in a large laundry and steriliser gas monitoring in hospitals.

Teaching is also regarded as a priority. Regular lectures and demonstrations are carried out for the University of Tasmania, the Australian Maritime College, Further Education Colleges, the Trade Union Training Authority, Tasmanian Trades and Labour Council and technical areas.

The Branch has the most comprehensive collection of occupational health and safety references in Tasmania to back up its above services and to respond to outside requests for information. Frequent use is made of computer-based literature searches and a CD-ROM-based information system.

There is such an obvious need for these services to the Tasmanian community that the Branch is poised for expansion and for changes to improve its services to its clients.

10.3.1 Employment Injuries

There were 9530 employment injury claims reported as occurring during the 1987-88 financial year. This is a small increase of 440 over the 9090 reported as occurring in 1986-87.

Reports of employment injuries to men increased by 2.8 per cent to 8072 from the 7853 reported in 1986-87. Reports involving women also increased: 1458 for 1987-88 compared to 1255 in the previous year.

Of the 9530 claims reported, 179 were identified as diseases while 9529 related to accidents. Diseases accounted for about two per cent of all reports, a figure consistent with the pattern of previous years.

As in 1986-87, there were nine deaths reported in Tasmania in 1987-88. These were all

men, and compensation paid on these was an estimated \$425 000.

In addition to the nine deaths, there were a further eight cases where the injured people were unable to resume work as a result of their injuries. These are described as *permanent total disability* cases. Again these were all men.

These, and fatalities, because there is no resumption of work, are not used in the calculation of average time lost and average daily compensation figures.

There were also 19 cases where the people were able to resume work, but in a reduced capacity and with a subsequent loss of earnings, due to *permanent partial disabilities*.

Temporary disabilities accounted for the remaining 9494 reports, over 99 per cent of all claims

While generally considered to be less serious than the other three types of disabilities, temporary disabilities can nevertheless involve a considerable amount of time off work and medical treatment before the affected people can resume normal duties.

10.6 EMPLOYMENT INJURIES, 1987-88

	Deaths	Injuries
Males	9	8 063
Females	Ace 2015-17 14	1 458
Persons	9	9 521

For the year, an estimated total of \$16.9 million was paid in compensation for all original claims reported to the Australian Bureau of Statistics, the same total as estimated in 1986-87. This gives an average cost for each non-fatal claim of \$1734, and an average of \$105 for each day lost for temporary and permanent partial disability cases. In 1986-87 the average cost for each day lost was \$89.

The average cost for non-fatal claims involving men was \$1830, with a daily cost of \$109; for women it was \$1202 with a daily cost of \$83.

10.4 HEALTH RESEARCH

The Menzies Centre for Population Health Research was established in January 1988 after a Menzies Foundation Workshop was held in Hobart in February 1987. The Workshop recognised the need to stimulate population health promotion, based on research, and recommended the establishment of a Centre for Population Health Research within the University of Tasmania. Tasmania was seen as an ideal place to carry out the aims of such a Centre because of its relatively stable population, and its well integrated medical records.

The Centre has been established to contribute information on the causes of disease and where knowledge is sufficient, to help mount programs which will reduce the incidence of a particular disease. Tasmania's relative isolation and small size makes it easier to organise and conduct certain types of population health research requiring the linkage of information from many different sources. Tasmania is well suited to research on the incidence, prevalence, time trends, risk factors and other aspects of more common global health problems, including coronary heart disease.

The research the Centre is now undertaking reflects this, with major projects being conducted in salt and hypertension, a case control study on the association of diet, exercise and sudden cardiac death in adult males, and a cohort study into Sudden Infant Death Syndrome, which is particularly high in Tasmania.

The Centre is also divided into study subgroups. Both the Tasmanian Cancer Registry and the Tasmanian Diabetes Registry are managed by the Centre, as well as the recently established Menzies Clinic for Better Health. A range of scientific staff are employed to undertake research including epidemiologists, computer programmers and biostatisticians. This gives us the capacity to analyse our own statistics as well as eventually allowing us to offer a service to other groups.

Finally the Centre has established a Health Economics Unit - one of few in Australia. This provides the national health community with a service which is increasingly in demand, both by pharmaceutical companies and in relation to projects requiring health benefits cost analysis.

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The Ozone Layer and Health

The international conference on the Ozone Layer and Health was held in Hobart in May 1989. It examined the basic facts known about ozone, the dangers of ozone depletion and the health effects.

The Urgent Recommendations of the Conference

A dramatic deterioration in atmospheric ozone and the possibly frightening effects on human health led to the first International Conference on the Ozone Layer and Health, held in Hobart in May 1989. Thirty-four of the world's leading scientific experts presented the most up-to-date evidence on the effects of ozone depletion and health. The conference set out a number of conclusions and recommendations: ozone damaging chlorofluorocarbons (CFC's) and halons must be phased out as soon as practicable; strong concern must be expressed to authorities about the dangerous effects of increased ultraviolet radiation resulting from ozone depletion; Australasia's ozone monitoring programs need enhancing on a regional and global basis; urgent on-going medical, physical, chemical and biological scientific research is needed now; effective monitoring of ultra-violet radiation effects on health and research into ways to manage these problems should be implemented; and formal inter-disciplinary co-ordinating structure needs to be established quickly.

Ozone - The Basic Facts

Ozone is vital because it protects life on earth by absorbing harmful incoming ultra-violet radiation from the sun. This protective gas is created from oxygen at heights between 15 and 35 kilometres above the earth's surface in the stratosphere, however, its chemical structure is such that it is relatively easily broken back down into oxygen. Normally, the creation of this protective gas is in balance with its breakdown, but when certain additional constituents are added to the atmosphere at this level the breakdown of ozone gas proceeds more quickly, exceeding ozone creation and therefore diminishing the earth's ultra-violet radiation barrier. Chlorofluorocarbons are the most important agents responsible for damaging ozone in the stratosphere, a situation which has been termed disastrous. These gases are so stable that when released from, for example, spray cans, refrigerators or manufacturing processes, they travel in atmospheric air currents from the earth's surface up into the stratosphere.

At this point CFC's are broken down themselves, releasing chlorine. The addition of increased amounts of chlorine into the stratosphere spells danger, because it is chlorine that increases the breakdown of ozone gas, decreasing the protective gas layer above us. One serious cause for concern now, is that the chlorine gas particle doesn't destroy one ozone gas particle, it keeps going - destroying thousands of essential ozone gas particles. Given that ozone gas occurs in the stratosphere at the very low concentration of no more than 10 parts per million, such continuing breakdown activity quickly achieves significant levels of reduction in the protective ozone gas layer. As a direct result of this ozone gas depletion, all living things on earth are placed in danger, as the level of harmful ultra-violet radiation rapidly increases at the earth's surface.

Ozone Depletion - The Dangers

The impact of reduced ozone on human health, on animal and plant life and on inanimate objects (by accelerated degradation) is perhaps the greatest unknown at this stage. However, certain facts indicate that the dangers to each of these groups is real - and increasing. As a general 'rule of thumb', a one per cent loss of ozone gas in the stratosphere implies a two per cent increase in ultra-violet radiation at ground levels. What is now being sought is an understanding of the impact of increases in ultra-violet radiation reaching earth. In Antarctica, certain climatic conditions accelerate the ozone breakdown effect causing what has now been termed 'a hole in the ozone layer', a stratospheric area of ozone depletion discovered over Antarctica in 1985. A huge international scientific research effort has been made since the discovery of the 'hole', because the implications for Australia and the world are enormous.

The dangers are that the specific conditions which caused this totally unpredicted 'hole' could appear elsewhere, again causing ozone depletion. In addition, a fear exists that this region of ozone depleted air, which provides a significantly weaker ultra-violet protection barrier, might mix with air at other latitudes. This in turn causes a drop in the amount of

ozone at these locations giving less ground protection from ultra-violet radiation. This danger has now been shown to exist. Southern Australia and New Zealand are likely to be more severely affected by ozone depletion than at first thought. On the basis of both satellite and ground based measurements, it has been shown that there was a 10 per cent ozone level reduction over Melbourne in December 1987. This was accompanied by a 20 per cent increase in ultra-violet radiation in the lower atmosphere. Therefore, during summer when human sun exposure is at its highest, ultra-violet radiation jumped well beyond the level expected.

Ozone Depletion - The Health Effects

Stratospheric ozone depletion, and the consequent lowering of our ultra-violet radiation absorption barrier, has led to a significant increase in the amount of ultra-violet radiation reaching the earth's surface in natural sunlight. Specifically, the increase has been in a particular type of ultra-violet radiation, ultra-violet 'B' radiation. There is continuing discussion as to the precise effects of exposure to ultra-violet 'B' radiation over different time periods and radiation intensity levels, however ultra-violet 'B' radiation is believed to contribute to the development of skin cancers, eye diseases and human immune system suppression.

Ultra-violet radiation, particularly ultra-violet 'B' radiation has been shown to cause acute and long term skin changes. The acute effects include inflammation and sunburn, while the chronic changes include an acceleration of the ageing process and skin cancer. Australia has the highest incidence of melanoma in the world, with 4000 new melanoma type skin cancers diagnosed each year. In addition, at a conservative estimate, at least ten times that number of new non-melanoma skin cancers are being diagnosed annually. Eight hundred people die each year from melanoma.

Australia - worsening of situation

Within Australia, the incidence of skin cancers increases towards the equator. It was this factor which alerted scientists to the role of sunlight as a factor in causing skin cancers. Calculations indicate a one per cent increase in ultra-violet radiation at the earth's surface will lead to a one to two per cent increase in skin cancers probably after a time lag. This lag, which might be up to 20 years, is as a re-

sult of the human body taking time to react to cancer causing factors. In global terms there has been an approximate 50-100 per cent increase in all skin cancers in the past ten years, although scientists believe this is as a result of changing sun exposure habits amongst populations and improved skin cancer detection. While ultra-violet radiation is also known to be a significant contributory factor associated with the incidence of eye cataracts, ultra-violet irradiation is thought to be the major cause of certain other eye diseases. It is believed that stratospheric ozone depletion will cause significant increases in the incidence of all these conditions.

Body's defences down

The last major health effect of increased ultra-violet radiation considered at the conference, was the effect of such radiation on the immune system. Recently, ultra-violet radiation was shown to alter the immune system in experimental animals and humans. Because the immune system is of paramount importance in controlling infectious diseases, it has now become essential to find out whether exposure to ultra-violet radiation can cause an increase in the incidence or severity of infections. New studies in animal models of infectious diseases suggest that ultra-violet radiation can indeed potentiate certain disease processes. Other events relating to this immune system suppression are also being explored, with the suggestion that suppression allows developing skin tumours to bypass local body defence mechanisms, resulting in tumour growth and spread. In summary, the potential health consequences of continued ozone layer depletion include increases in skin cancers, eye diseases and possibly, immune system changes.

Food chain effects

An indirect danger to humans lies in UV radiation's effect on food chains that we depend on for oxygen and nutrients. For example, increased ultra-violet radiation following ozone depletion is likely to have a serious effect not only on marine systems and organisms, but also such an increase may lead to lowered productivity of certain sensitive crop species. If the 'greenhouse' induced climatic change were also to occur at the same time, then the double barrelled action might cause an even greater impact on humans.

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The Centre is to be given international recognition as a World Health Organisation Collaborating Centre on the use of non-pharmacological measures in the prevention and management of cardiovascular disease, in particular in relation to hypertension. This prestigious agreement will give the Menzies Centre a high profile in the international scientific arena.

At a national level, the Centre was chosen to manage the Hypertension Project Planning Team, a major Federal Government initiative determining funding for the reduction of hypertension in Australia as part of the Better Health Commission Report.

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Chapter 11

SOCIAL WELFARE

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Chapter 11

SOCIAL WELFARE

The main objective of the Australian social welfare system is the alleviation of poverty. Support for families with children is also provided in accordance with the high value Australians have traditionally placed on family formation and child rearing.

In pursuing these objectives, certain major principles have long been embodied in the system:

- the community as a whole accepts responsibility for the provision of income support to those individuals and families who are unable (or are not expected) to support themselves;
- payments are provided to such people as a right;
- payments are targeted towards particular categories of people in need (e.g. to the aged, sole parents, the sick and unemployed) and, generally, according to people's means and
- support for children is provided in recognition that, at any level of income, people with children have greater needs than do those without.

Historically, the Federal Government became responsible for income security at a time when the only people seen to be 'in need' were those unable, as a result of age, widowhood or handicap, to support themselves. The State Government's role has been one of child welfare, in areas of protection, neglect and care.

In the absence of a commonly accepted framework for describing and analysing 'social welfare' in its totality, two strands are promi-



At 30 June 1989, 37 855 persons in Tasmania were receiving the age pension. Photo: Mercury

nent. A large component of 'social welfare' consists of cash payments to people in need. Although perhaps not all embracing nor definitive, the term income maintenance can be used to encompass all regular cash benefits paid to individuals.

An equally large, if not larger, component of 'social welfare' consists of a vast array of direct services provided by governments, and non-government agencies, often with at least some funding provided by government.

Together, income maintenance payments and direct services to individuals, provide a 'social welfare' system which is a complex net of activities providing communal assistance to individuals that in one way or another involves almost all members of our society.

11.1 INCOME MAINTENANCE

Income maintenance payments to individuals are mostly provided by the Federal Government. During 1988-89, \$23 719 million were expended in Australia on social security and welfare by the Commonwealth, 28.9 per cent of the total government outlay. The increase over 1987-88 was \$1254 million or 5.6 per cent.

In 1988-89, \$586 million were paid to Tasmanians in the form of pensions and benefits. At the end of the year (30 June 1989) in excess of 170 000 pensions and benefits were being funded in Tasmania from the Federal Government.

11.1.1 Pensions

The introduction of a pension for aged persons in 1909 began Australia's national provision of social security payments. Since then a number of other regular income payments have been introduced to meet specific cases of perceived need: for people incapacitated for work, for spouses of age or invalid pensioners, for sole supporting parents. In addition, disability and service pensions have been provided for returned servicemen and women and their dependents.

11.1 DEPARTMENT OF SOCIAL SECURITY PENSIONS PAID, TASMANIA, 1988-89

Pension type	Number of recipients at 30 June 1989	Expenditure (\$m)
Age (a)	38 557	214.9
Invalid (a)	11 930	73.7
Widows' and sole		
parents' (b)	10 136	81.1
Sheltered employment		
allowance	500	3.5
Total	61 123	373.2

(a) Includes wife and carers pension. (b) Widows' class A pension and supporting parents' benefit were abolished from March 1989 and replaced by sole parents' pension. Widows' class B pension is gradually being phased out. It ceased to be granted after 1 July 1987 except in very limited circumstances.

Source: Department of Social Security Annual Report.

Age Pensions

Women aged 60 and over and men aged 65 and over are eligible for the age pension subject to income and assets conditions and residential qualifications.

11.2 AGE PENSIONS, TASMANIA

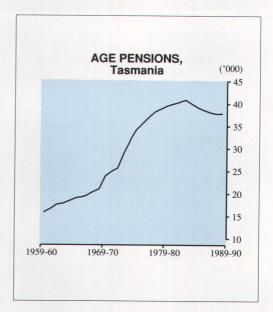
Year	Number at 30 June (a)	Financial year expenditure (\$m)
1983	41 639	143.9
1985	39 782	165.2
1987	38 743	180.3
1988	38 434	198.0
1989	38 557	214.9

(a) Includes wife/spouse/carer pensioners from 1983.

Source: Department of Social Security Annual Report.

During the financial year 1988-89, \$215 million were paid to aged people in Tasmania. At June 1989, 72 330 people aged 60 or over, of whom 53 per cent were age pensioners, comprised 16 per cent of the State's population.

By the year 2001 an estimated 82 600 persons or 22 per cent of Tasmanians will be aged 60 or over. At the same rate of pension claim, the number of pensioners will increase to an estimated 44 000.



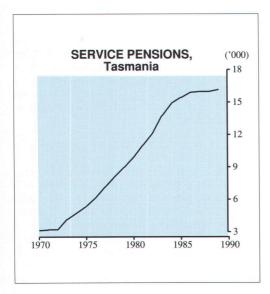
Service Pensions

In addition to the Social Security age pension, the Department of Veterans' Affairs provides service pensions to male veterans aged 60 years and over and female veterans aged 55 and over. At June 1989, 16 162 service pensions were being paid, 9508 to veterans and 6654 to wives and widows of veterans.

11.3 SERVICE PENSIONS, TASMANIA, JUNE 1989

War service	Number of pensions
1914-18 war	83
1939-45 war	13 691
Korea and Malaya	214
British Commonwealth	1 516
Allied Forces	388
Special overseas service	144
Miscellaneous	126
Total	16 162

In 14 years the number of service pensions has trebled. In that time the composition of the recipients has undergone considerable change due principally to a trebling in the number of World War II veterans reaching the age of eligibility. In 1975 the 5375 service pensioners comprised: Boer War, 3; 1914-18 war, 1088; 1939-45 war, 4265; Korea and Malaya service, 17; and miscellaneous, 2.



11.4 SERVICE PENSIONERS, TASMANIA

Year	Number at 30 June	Financial year expenditure (\$m)
1984	14 878	51.8
1986	15 895	63.5
1987	15 970	68.8
1988	15 975	69.1
1989	16 162	80.8

Invalid and Disability Pensions

An invalid pension is payable to people over 16 years of age who are permanently incapacitated for work (to the extent of at least 85 per cent), or are permanently blind. At 30 June 1989, 11 930 persons were receiving this pension.

11.5 INVALID AND DISABILITY PENSIONS, TASMANIA

Year	Invalid pension (a)		
	Number at 30 June	Financial year expenditure (\$m)	
1983	8 530	32.2	
1985	9 820	44.0	
1987	10 904	53.9	
1988	11 347	62.5	
1989	11 930	73.7	

Year	Disability pension		
	Number at 30 June	Financial year expenditure (\$m)	
1983	16 805	28.9	
1985	16 743	38.8	
1987	15 337	31.8	
1988	15 121	35.2	
1989	15 164	54.6	

(a) Includes spouse carer pensioners from 1983.

Source: Departments of Social Security and Veterans' Affairs annual reports.

In addition to the invalid pension provided though the Department of Social Security, the Department of Veterans' Affairs provides a similar pension to veterans as compensation for incapacity accepted as war-service related. At 30

June 1989, 15 164 disability pensions were being paid and expenditure for the year amounted to \$54.6 million.

An allowance equal to the invalid pension can be paid to people who work in approved sheltered employment services, if they are otherwise eligible for the invalid pension. During 1988-89, \$3.5 million were paid as sheltered employment allowances and at 30 June, 500 persons were receiving the allowance.

Widows' Pension and Supporting Parents' Benefit

The widows' pension was introduced in 1942 to provide a regular income for women who had lost the support of their partner.

Sole parents who have the custody, care and control of a qualifying child aged under 16 can be eligible for a supporting parents' benefit. It was originally introduced in 1973 as the supporting mothers' benefit and renamed in 1977 when extended to supporting fathers.

Widows' class A pension and supporting parents' benefit were abolished from March 1989 and replaced by the sole parents' pension. Widows' class B pension is gradually being phased out. It ceased to be granted after 1 July 1987 except in very limited circumstances.

Widows' Class B Pension

A widows' class B pension is basically payable to a woman aged 50 years and over with no children at 1 July 1987 who is or subsequently becomes a widow. A widow for the purposes of the *Social Security Act* includes:

- · a (de jure) widow;
- a woman who is a divorcee;
- a woman who has been deserted by her husband without just cause for a period of not less than six months;
- a woman whose husband has been convicted of an offence and has been imprisoned for a period of not less than six months;
- a woman who was the de facto wife of a man for at least three years immediately before his death; and
- a woman who is a victim of a bigamous marriage in certain circumstances.

At 30 June 1989 there were 2195 widow class B pensioners.

Sole Parents' Pension

A sole parents' pension is payable to a person (with at least one qualifying child) who is:

- an unmarried parent;
- a separated husband or wife or a separated de facto husband or wife;
- a parent whose spouse or de facto spouse has been imprisoned for at least 14 days;
- a person left caring for a child and unable to live with his/her spouse in the matrimonial home because of the spouse's illness or infirmity which is likely to continue indefinitely, and prevents the spouse from caring for the child;
- a person whose de facto spouse has died;
- · a widow or a widower or
- · a divorced person.

It is not payable where the person is living in a de facto or marriage-like relationship.

At 30 June 1989 there were 7941 sole parent pensioners.

11.1.2 Unemployment and Sickness Benefits

Unemployment Benefit and Job Search Allowance

With rising unemployment during the 1970s and 80s, the number of people receiving benefits has risen almost four fold; from 3825 recipients in 1970, to 15 246 people at June 1989 after a peak of 32 147 during 1981-82. During the 1988-89 year a total of 19 919 benefits were granted in Tasmania.

From 1 January 1988 unemployment benefits for 16 and 17 year olds were replaced by a new payment called job search allowance. The introduction of the allowance came as a result of a need to encourage unemployed 16 and17 year olds to take up training and employment opportunities rather than become dependent on a long-term unemployment benefit and to remove any financial incentive to leave school early. At 30 June 1989, 1157 job search allowances were being paid.

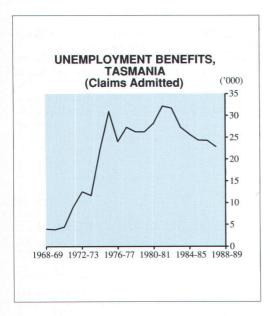
11.6 UNEMPLOYMENT BENEFITS, TASMANIA (a)

Year	Number of recipients at 30 June	Financial year expenditure (\$m)	
1979	10 420	28.6	
1981	12 929	34.7	
1983	20 355	78.3	
1985	18 870	96.9	
1987	18 880	109.5	
1988	18 281	118.2	
1989	17 463	122.9	

(a) Includes job search allowance from 1988.

Source: Department of Social Security Annual Report.

An unemployment benefit may be paid fortnightly, generally after a seven-day waiting period, to people aged between 18 and 64 in the case of men or under 60 in the case of women. They must be Australian residents and in Australia on the day claims are lodged.



To be eligible for unemployment benefit a person must:

- have been unemployed for the period covered by the benefit;
- be capable of undertaking and willing to undertake suitable paid work;

- · be taking reasonable steps to obtain work;
- not be unemployed due to being, or having been, engaged in industrial action;
- not be unemployed due to industrial action by other members of a trade union of which the person is a member and
- be registered as being unemployed by the Commonwealth Employment Service.

Sickness Benefits

A sickness benefit is paid to people who have been temporarily incapacitated for work because of sickness or accident and who have suffered a loss of income as a result of the incapacity or who, but for the incapacity would qualify for the unemployment benefit. At June 1989, 1312 benefits were being paid. An assets test on unemployment, sickness and special benefits for recipients aged 25 and over applied from December 1986 based on the pensions assets test threshold.

11.7 SICKNESS BENEFITS, TASMANIA

Year	Number of recipients at 30 June	Financial year expenditure (\$m)
1981	3 626	2.9
1983	3 750	4.6
1985	1 025	5.5
1987	1 209	7.5
1988	1 285	8.4
1989	1 312	9.4

Source: Department of Social Security Annual Report.

11.1.3 Allowances for Families

Family Allowances

In 1976 child endowment, along with tax rebates for dependent children, was replaced by a family allowance, usually payable to the mother.

People who have the custody, care and control of one or more children under 16, or one or more full-time students aged 16 to 24 inclusive, who are wholly or substantially dependent on them, may receive the family allowance. Payments for students aged 18-24 were withdrawn

from November 1985 (other than for those in needy families). An income test applies to family allowance payments for children under 18.

11.8 FAMILY ALLOWANCE, TASMANIA

Year (a)	Number of dependents	Number of families & approved institutions	Financial year expenditure (\$m)
1981	123 270	61 309	27.8
1983	122 729	61 820	39.1
1985	123 079	62 734	42.8
1987	116 937	60 637	39.5
1988	111 038	57 021	39.3
1989	110 000	56 508	38.2

(a) To 30 June.

Source: Department of Social Security Annual Report.

To be eligible for the allowance the person and children must have been born in Australia or intend to remain permanently in Australia. If neither of these conditions is met, family allowance is payable after the claimant and children have been in Australia for 12 months.

Child Disability Allowance

To qualify for a child disability allowance a person must:

- have the custody care and control of a disabled child;
- provide additional care and attention on a daily basis for the child by reason of the child's disability, in a private home which is the residence of both the person and the child; and
- in most situations be eligible to receive family allowance for the child.

A disabled child is one who:

- has a physical, intellectual or psychiatric disability;
- because of their disability needs care and attention that is substantially more than that required by a child of the same age without a disability; and

 is likely to need that care and attention for an extended period.

Child disability allowance was formerly known as handicapped child's allowance.

11.9 CHILD DISABILITY ALLOWANCES, TASMANIA

Year	Number of recipients at 30 June	Financial year expenditure (\$'000)	
1981	766	529	
1983	863	839	
1985	996	916	
1987	1 027	975	
1988	1 286	1 285	
1989	1 364	2 161	

Source: Department of Social Security Annual Report.

Double Orphan's Pension

A guardian or an institution may be paid a double orphan's pension for a child under 16, or a dependent full-time student aged 16 to 24 inclusive, whose parents are dead. The pension is also payable if one parent is dead and the whereabouts of the other parent are not known or the other parent is serving a sentence of imprisonment of 10 years or more or is an inmate of a mental hospital and will require care and treatment in that or a similar hospital for an indefinite period. It is also payable in respect of refugee children in certain circumstances.

11.10 DOUBLE ORPHAN'S PENSION, TASMANIA

Year	Number of recipients at 30 June	Financial year expenditure (\$'000)	
1981	88	53	
1983	122	84	
1985	110	72	
1987	56	53	
1988	74	49	
1989	50	48	

Source: Department of Social Security Annual Report.

Family Allowance Supplement

Certain low income families are eligible for a family allowance supplement, an income-tested, non-taxable supplement payable for each child under 16 years or dependent full-time students aged 16 to 24 inclusive.

A person may qualify, subject to residence requirements, for the allowance provided that:

- the person or his/her spouse is qualified to receive family allowance for a child;
- the person or his/her spouse is not in receipt of other forms of Commonwealth income support or overseas payment that provide for additional payments in respect of that child; and
- the child does not receive or attract payment of a Commonwealth income-tested pension, benefit or allowance.

11.11 FAMILY ALLOWANCE SUPPLEMENT, TASMANIA

Year -	At 30 June,	number of	Financial
	Recipients	Children	year expenditure (\$m)
1984	1 418	3 844	1.8
1985	1 309	3 607	2.1
1987	1 498	4 102	2.8
1988	5 769	14 122	8.9
1989	5 962	15 009	14.8

Source: Department of Social Security Annual Report.

The allowance is generally paid to the person receiving family allowance for the child (normally the mother). Family allowance supplement was formerly known as family income supplement.

11.1.4 Other Benefits and Allowances

The social security system provides a number of other allowances additional to the main benefit provided, the most significant of which are the special benefit, funeral benefits, and fringe benefits for pensioners.

Special Benefit

A special benefit may be paid to people who are not eligible for a pension, unemployment or

sickness benefit but who are unable to earn a sufficient livelihood for themselves and their dependants.

The grant of a special benefit and the rate of payment are at the discretion of the Secretary of the Department of Social Security. The rate may not exceed the rate of unemployment or sickness benefit that would be paid if the claimant were qualified to receive either of those benefits.

The benefit is designed to meet cases of special need and payments may be made immediately in an emergency.

Funeral Benefit

A funeral benefit of \$20 is payable to a person liable for the funeral costs of an eligible age, invalid, wife or spouse carer pensioner or of a recipient of sheltered employment allowance, a tuberculosis allowance, or rehabilitation allowance in lieu of one of these payments. A benefit of up to \$40 is payable to an eligible age, invalid, wife, spouse carer or widow pensioner, a supporting parent beneficiary, or a person in receipt of a sheltered employment allowance, tuberculosis allowance, or rehabilitation allowance in lieu of one of these payments, or a repatriation service pensioner who is liable for the funeral costs of a spouse, child or other eligible social security pensioner.

11.12 SPECIAL BENEFITS AND FUNERAL BENEFITS, TASMANIA, 1988-89

Benefit	Number of benefits granted	Expenditure (\$'000)	
Special	5 230	7 071	
Funeral	1 021	31	

Source: Department of Social Security Annual Report.

Fringe Benefits

The majority of pensioners, beneficiaries of sheltered employment, rehabilitation and supporting parent allowances are entitled to a range of non-cash benefits including concessions on pharmaceuticals, free hearing-aid services, telephone and postal concessions, concessions on some rail and bus travel, council

rates, driver's licences, car registration fees, power charges and land taxes. At 30 June 1989, 52 779 pensioners (86.3 per cent of all pensioners) were receiving pensioner fringe benefits.

11.13 SUPPLEMENTARY ASSISTANCE, 1987-88

Assistance	No. of cases
Heating allowance	10 542
Spectacles	5 926
Furniture removals	253
Funeral expenses	194
Transport	68
Total	16 983

In addition, the State Department for Community Welfare provides a number of supplementary allowances to people who are in receipt of pensions or benefits and who satisfy a means criterion.

11.2 DIRECT SERVICES

While it is the Federal Government that provides almost all income maintenance payments, it is the State Department for Community Welfare, together with voluntary agencies, that provide the personalised help to people in need.

Services provided by the Department, including child welfare, assistance to families and individuals, community programs and grants, accounted for almost \$20 million in 1988-89.

11.14 STATE GOVERNMENT WELFARE EXPENDITURE, 1988-89 (\$'000)

Management services	1 342
Assistance to families and	
individuals	2 259
Child welfare	7 568
Financial assistance to community	
organisations	7 980
Community services	686
Total	19 834

Source: Department for Community Welfare Annual Report.

11.2.1 Child Welfare

Child welfare is primarily focussed on neglected, or orphaned children and children brought to notice through the courts.

Children Under Supervision

The *Child Welfare Act* provides that children who are found guilty of offences and those who are found to have been neglected may be placed under the supervision of a Child Welfare Officer for up to three years. The principal purpose of the order is to provide advice, guidance, counselling and practical help to the child. The order also requires the child to comply to the reasonable directions of the Officer. At 30 June 1989, there were 156 children under the legal supervision of Child Welfare Officers.

11.15 NUMBER OF CHILDREN UNDER LEGAL SUPERVISION AT 30 JUNE

Regions	1986	1987	1988	1989
Southern	65	40	44	52
Northern	34	38	27	55
North-west	53	55	62	49
State total:	152	133	133	156

Source: Department for Community Welfare Annual Report.

Wards of the State

Wards of the State are under legal guardianship of the Director. At 30 June 1988, there were 450 children under guardianship:- 254 males and 196 females. The large discrepancy between the numbers of males and females is due to the much greater number of males who are found guilty of offences. Eighty-one per cent of the children found guilty of offences were male, while only 19 per cent were female.

A child may become a Ward of the State in a number of ways. A parent may apply to the Minister to have his or her child admitted as a Ward. This practice is most common in the case of babies who are offered for adoption but who are not suitable for immediate placement. A Children's Court may declare a child to be a Ward of the State after finding that the child is neglected, or after finding the child guilty of a certain class of offence, such as assault or burglary and stealing. The *Child Welfare Act* also

provides for a parent to submit a plea at a Children's Court that their own child is beyond their control.

Once a child has become a Ward of the State, the Director of the Department for Community Welfare becomes his or her legal guardian to the exclusion of all others, including the parents. Through the staff of the Department, and with the help of individuals and groups in the community, the Director may exercise this responsibility for guardianship in a variety of ways.

In many cases it is considered to be in the best interests of a child to provide care by supplementing, rather than substituting for, the care offered by natural parents. Even when it is necessary to remove the child from his or her normal home, the over-riding aim is to assist both the child and parents so that they can re-establish a normal family relationship.

Foster Homes

Long-term fostering is required when children are unable to return to live with their natural parents. In some cases their parents are dead, missing, or unable to provide for them. Foster homes provide long-term 'substitute care' that closely resembles the normal family environment. Unlike Family Group Homes, Foster Parents care for only one or two children.

While living with foster parents the foster child is still aware of his or her true identity and in many cases retains periodical contact with his or her natural parents and relations. In recent years there has been an increased emphasis on children retaining personal contact with their natural families. It has been found that Foster Parents are able to work effectively with natural parents for the benefit of the child.

Children's Homes

Approved Children's Homes are run by charitable bodies to provide long term care for children. Approved Children's Homes are also occasionally used for short term placements, although this type of use is declining. Children can live in the Homes on the application of their parents or at the request of the Department.

Approved Children's Homes have moved away from the traditional dormitory institutions towards the use of cottage accommodation. Cottage accommodation consists of several houses in different parts of a suburb or in different suburbs all coming under the same administration.

Some of the Approved Children's Homes also provide additional support services, such as extension fostering schemes and specialist child development workers.

Family Group Homes

The Department for Community Welfare has 18 Family Group Homes distributed throughout the State; all are run by families. This enables children to live in a family atmosphere rather than an institution. Children stay anywhere from a couple of days to a couple of weeks before they either return to their families or an alternative longer term home is arranged for them, such as with Foster Parents. While each Family Group Home may care for up to six children, the average number in a home at one time is usually four.

The largest Southern region uses Family Group Homes for short term placements for children much more than other regions. In the Southern region between the years 1984 to 1987 the proportion of children being placed in Family Group Homes increased from just under half to just over two thirds of the State total. Then in 1987-88 the use of Family Group Homes by the South dropped to just under half of the State total.

Between the years 1984 to 1987 there was little change in the use of Family Group Homes by the Northern region. However from 1986-87 to 1987-88 use of family Group Homes increased to a third of the State total. In the Northwest, after several years of decline, the use of Family Group Homes increased in 1987-88 to a quarter of the State total.

Adoption

While other forms of alternative care and accommodation are short or even long term, adoption is a permanent alternative to substitute care. When a child is adopted he or she becomes a permanent member of a new family with the same rights and legal status as if he or she were born into that family. Adoption should be seen as a service for children rather than a way of providing childless couples with children and this is reflected in the new Adoption Bill.

Adoption Legislation

Following a review of existing adoption legislation, the Adoption Bill was passed by both houses of Parliament in November 1988. The Act will enable the implementation of the recommendations contained in the report of the

Inter-Departmental Committee on Adoption Legislation Policy. These recommendations reflect changed community attitudes, particularly in relation to access to information.

An important part of the legislation concerns the setting up and management of an Information Service. The service deals with requests for information from adopted people, their adopted families, relinquishing parents and blood relatives, including grandparents, aunts, uncles, brothers or sisters of the adopted person. In addition the service provides adopted people with a means of obtaining their original birth certificate.

The service also maintains a Contact Register, through which people can state their willingness to be contacted. During its first four months of operation the service received 300 inquiries with almost two thirds of the requests for information being from adopted people seeking details of their parents. More than half of the requests sought personal meetings, only four asked that no contact be made with them.

Inter-country Adoptions

Tasmania remains the State with the highest ratio of inter-country adoptions per population compared with the other States. During 1988-89, 17 children were adopted by Tasmanian couples. This is a reduction from the 27 children in 1987-88. This reduction is due to the closure of the Sri Lankan inter-country adoption program during 1987-88. The closure was due to media exposure of alleged baby farming and racketeering involving a number of overseas countries. As has been the case for the last four years, the greatest number of children came from Korea. In July 1990 the State's intercountry adoption register was closed. The closure did not affect the 90 Tasmanian couples already on the register but it removed one of the last avenues open for childless couples.

11.16 INTERCOUNTRY ADOPTIONS

Country	1986-87	1987-88	1988-89
Korea	30	19	11
Sri Lanka	11	3	1
India	1	2	1
Fiji	1	2	4
Philippines		1	
Total	43	27	17

Source: Department for Community Welfare Annual Report.

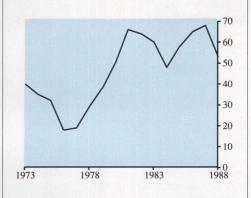
Residential and Community Youth Services

Residential and community youth services in co-operation with field services provides special support and assistance to children and young people whose behaviour may be damaging to themselves or others.

Wybra Hall Closure

As part of the Department for Community Welfare's de-institutional policy, Wybra Hall at Mangalore was closed in 1988. The worst offenders were moved to a new building at Ashlev Home for Boys in Deloraine. Wybra Hall was outmoded and outdated and about \$1 million were needed to make it functional. The new facility at Ashley which cost about \$500 000 to build includes recreational amenities such as table tennis, eight-ball, television and video equipment. Many problem children at Wybra, boys under 15 and girls under 17. were non-offenders and were not mixed with the more serious offenders at Ashley but were instead placed in the community. During the previous 12 months new facilities had been set up to cope with the move. In the south, the Kennerly foster care program had been extended and in the north, Fusion, which provides hostel-type accommodation, developed. The Department's swing away from institutionalising children to keeping them in the community is to help them learn socialisation skills. Institutionalising children is only used as a last resort.

NUMBER OF ADMISSIONS, WYBRA HALL



The services are provided through one residential institution, Ashley Home for Boys and through two non-residential Resource Units.

Ashley Home for Boys

With the closure of Wybra Hall, new buildings were built at Ashley to cater for girls as well as boys.

For a number of years Ashley has been involved in integrating the children within the local community. This involvement includes attending the local and Launceston schools and joining in community sports groups, such as badminton, basketball and football.

As part of their voluntary activities, the children maintain an Apex bush walking hut. The staff and children have also maintained the Tahara Corner Reserve at the entrance to the Deloraine township and picnic grounds at Liffey Falls.

During 1988-89 there were 88 admissions and re-admissions at Ashley, 64 males and 24 females. The number of new admissions for the year was 43.

Special Contract Care

Special Contract Care, established in 1985, is a program intended to help young people with serious behavioural problems. The program deals with their problems in a positive and constructive manner. Special Contract Care is a voluntary program in the sense that parents, the Department for Community Welfare and the child, reach an agreement and sign a 'contract' for the child to live with a specially trained and supported family for an agreed period of time. The contract is not legally binding. The aims of the program include: re-uniting children with their own families; finding children alternative places to live (e.g. with relatives or foster care) and children achieving a more independent way of life.

Initially a child may spend a month with a family. As the child settles down, the time may be extended, provided all parties agree, especially the child. The average period of placement under Special Contract Care is approximately nine months, but it may be longer or shorter. The ages of the children range from 12 to 16. Most children in Special Contract Care are aged from 14 to 15.

Special Contract Care was, and still is, intended as an alternative to placing children in

institutions. However the program is also employed for children coming out of institutions. During 1988-89, 43 children were involved in Special Contract Care cases.

The carers are carefully recruited and prepared to receive children. Unfortunately, the program needs more carers to meet the demand. In 1989 the Department advertised widely to recruit more carer families.

11.17 CHILD WELFARE PROGRAM, 1988-89 (\$'000)

Adoptions	312
Approved children's homes	683
Children under supervision	391
Family and other agency care	177
Family group homes	648
Foster care	1 239
Institutions	1 703
Investigations	380
Regional resources unit	445
Special contract care	283
Rest care	54
State co-ordination	137
Regional administration support	1 116
Total	7 568

Early Childhood Services Program

This program aims to develop a range of community based services to meet the needs of families whose children require access to long day care, short-term overnight care, part-time or occasional care and sessional care, that is, small sessions of two or three hours a day or a week. In Tasmania 237 long day care centre based places have been established under the Commonwealth/State co-operative arrangement.

Regional Adolescent Support Service

The purpose of the Regional Adolescent Support Service is to provide facilities and make activities available to both children and adolescents living in the full time care of the Department for Community Welfare and for children and adolescents living at home, but who are regarded by the Department as in need and would benefit from involvement in RASS's activities. RASS also gives support to the Child Welfare Officers by making them aware of the resources available to them to help the children and adolescents in their care.

11.2.2 Family Assistance

The Department for Community Welfare has developed a comprehensive program of assistance to individuals and families. The assistance available ranges from cash payments in emergency situations to help with specific items such as spectacles and homemaker schemes.

Emergency Relief Grants to Community Agencies

The State Government holds the view that provision of assistance in this area is a Commonwealth Government responsibility. To a large extent the need for emergency relief arises because of the inadequate levels of pensions and benefits or because of failures within the Social Security system. The provision of emergency relief is often seen as a form of income supplement.

The State Government has a limited responsibility to provide assistance in cases of family crisis or where the well-being of children is threatened because of the lack of financial assistance.

The State Government also has a role in the provision of personal services to those in need. In an attempt to redress the problem of long-term dependency on emergency relief agencies the Department has funded a Family Assistance Program attached to the Emergency Relief Program of Hobart City Mission. This pilot pro-

11.18 ASSISTANCE PROVIDED BY DEPARTMENT FOR COMMUNITY WELFARE, TASMANIA (Number of Cases)

Type of assistance	1986-87	1987-88
Emergency -		
Family assistance	881	513
Food orders	7 377	2 708
Supplementary -		
Heating allowance (a)	10 801	10 542
Spectacles	5 873	5 926
Furniture removals	297	253
Funeral expenses	169	194
Transport	21	68

⁽a) Figures represent on-going cases as opposed to new cases during the year.

Source: Department for Community Welfare Annual Report.

gram aims to promote longer term stability and independence for families regularly presenting for emergency relief.

Emergency relief grants to community agencies in 1988-89 totalled \$100 500.

11.19 EMERGENCY RELIEF GRANTS TO COMMUNITY AGENCIES (\$)

Agency	1987-88	1988-89
Bridgewater and Gagebrook		
Community Service Group	40 000	43 000
St Vincent de Paul	25 000	12 500
Launceston City Mission	24 000	21 000
5CG Emergency Relief		12 000
Glenorchy City Mission	12 000	
Rokeby Christian Care Group	7 500	4 000
Hobart City Mission	6 250	3 000
Red Cross	3 000	3 000
Tasmanian Aboriginal Centre	1 500	1 500
Flinders Is. Aboriginal		
Assoc. Inc.		500
Total	(a) 119 250	100 500

(a) Additional funds for emergency relief were expended through the Sundry Social Services.

Source: Department for Community Welfare Annual Report.

In addition to the provision of direct assistance the Department for Community Welfare provides grants to enable agencies to meet demands for emergency relief.

Family Support

The Department for Community Welfare offers a range of support services to families seeking help to overcome their personal and to some extent their financial difficulties. While some services require only brief involvement by the Department, such as counselling, other services offer more extended forms of assistance, for example the Homemaker Service. Much of family support is funded through community organisations.

Homemaker Service

The Homemaker Service exists in all three regions. A Homemaker goes to a family once or twice a week to offer guidance and help con-

cerning a wide range of matters, such as budgeting, child care and home management. Families are referred to the Homemaker Service because of a number of problems. These may be financial, emotional or related to difficult parent child relationships. Many families may be experiencing a combination of these difficulties all of which will be addressed by the Homemaker.

Residential Domestic Assistance

The Residential Domestic Assistance Program is a service for families who are temporarily unable to look after their children for reasons of sickness or family crisis. The program provides alternative care and accommodation for children, for instance, in Family Group Homes or with Foster Parents. Children usually stay in alternative accommodation for a few days to a few weeks before returning to their parents. Their parents, if it is necessary, may also receive assistance, such as counselling or a Homemaker may visit them to help with problems in the home.

11.2.3 Community Programs

Youth Services

The Tasyouth Unit of the Department for Community Welfare is responsible for identifying and meeting, where possible, the needs of young people by providing grants to nongovernment organisations working with unemployed youth.

The problem of homeless youth, while not new, has become more visible in recent years. Services to homeless youth include: emergency

11.20 GRANTS FOR YOUTH SERVICES ACCOMMODATION PROGRAMS, 1987-88

Organisation	\$
Youthcare (Anglicare)	182 589
North West Youth Shelter	156 334
Northern Youth Shelter	154 189
Housing Young Peoples Outreach (HYPO)	139 644
Fusion (Burnie)	124 551
Stepping Stones Inc.	75 601
Living Skills Programme (HYPO)	31 880
Fusion (Launceston)	30 466
Total	895 254

shelters, teaching of survival skills, and reconciliation where possible between parents and youth.

The aim is to provide homeless youth with shelter in the short term and the skills in the long term to maintain independent accommodation. The valuable work of non-government organisations is an important adjunct to this service for which funds are provided.

Homeless Youth

A new outreach house at Summerleas, near Kingston was opened in July 1990. The house was established by Youth Programs Inc. and is aimed at providing a comprehensive range of crisis, medium-term and permanent accommodation for homeless teenagers. Work-oriented training and self employment initiatives are also available for those staying in the typically suburban four-bedroom brick-veneer house. A resident leader lives in the house to help youngsters with cooking and gardening rosters, tending the hens and budgeting. The Kingston outreach house is the third to be established in southern Tasmania. The others are situated at Claremont and Newtown.

Disability Services

The trend towards disabled people living at home rather than in special institutions has increased the demand for community support services as disabled people strive for a better quality of life.

The Family Respite Care service is a HACC (Home and Community Care) funded statewide service, providing respite care for families caring for a disabled person. The service enables families caring for a person with a disability to receive support in two ways. A carer may come into their homes to help care for the person with a disability, or a host family may have the person with a disability in their home. This enables both the disabled person and their families to have a break.

The service was initiated and developed within the Disability Services Unit, over a two and a half year period, and in April 1989, was transferred to autonomous regionally based community management bodies.

Multicultural Services

Assistance is provided to help integrate migrants and refugees into the Tasmanian community. Financial support is given for the continuation of ethnic cultures and to respond to the needs of migrant and refugee groups that are not met from other sources.

11.21 MULTICULTURAL GRANTS PROGRAM, 1988-89

Recipient	\$
Migrant Resource Centre (Sth Tas.)	5 000
Migrant Resource Centre (Nth Tas.)	2 667
Alliance Française de Hobart	1 000
Australian Croatian Association	2 000
Australian Croatian Social & Sporting Club	2 500
Greek Orthodox Church & Society of Hobart	500
Greek Orthodox Community of Nthn Tas.	2 000
Tasmanian Lithuanian Community	1 500
Polish Association of Nthn Tas.	2 300
Task Force Action for Migrant Women	1 500
Good Neighbour Council of Tasmania	2 000
North-West Multicultural Society	1 000
Women's Karadi Aboriginal Group	1 033
Total	25 000

Source: Department of Community Welfare Annual Report.

Women's Shelters

Women's Shelters have as their primary purpose the provision of shelter and support services to women and children who have been subjected to domestic violence or who are rendered homeless through some personal or social crisis. Most shelters are not designed to provide accommodation to women and children requiring intensive, sustained specialised services and in cases where it is necessary to provide longer term accommodation and more intensive support, funding is made available to specific purpose refuges. Annie Kenney and Karinya for example accommodate single young women only and Caroline House provides for women with alcohol and drug related difficulties.

Most shelters have not been established to provide longer term support although most are forced into this role because of the increasing difficulty faced by women with children in locating alternative accommodation. The Housing Department continues to provide valuable assistance to both the Launceston and Hobart Women's Shelters in making special provision for women and children accommodated in refuges who seek public housing. Women moving out of the shelter in need of financial assistance may apply to the Family Assistance Scheme.

Shelters vary in respect of the mode of management employed and the intensity and breadth of services provided to users. Some shelters employ a style of management which involves the users of the shelter in the everyday operations of the shelter, e.g. cooking, cleaning, shopping. Staff are free to engage in the primary functions of the shelter, e.g. the provision of support and information to women in crisis. Other shelters have adopted a less participatory style of operation and have as their primary focus the provision of accommodation to women and children in crisis. All shelters are required as a condition of funding, to provide services which are accessible on a 24 hour, seven day a week basis. Some shelters provide a field work service to women who have left the shelter but who require continued support and visitation to prevent their return to the shelter.

The Crisis Intervention Unit

The Crisis Intervention Unit provides one of the Department's specialist services. It is aimed at providing protection, support and assistance to victims of family violence and referring them to the agencies that provide long term help. The Crisis Intervention staff provide support by visiting the homes of clients, usually women, as soon as possible after an assault has taken place, offering support and advice. To ensure the safety of the women and children involved, transport is often provided to a shelter or some other form of emergency accommodation.

The women and children involved are supported and assisted in seeking legal advice and additional support services to prevent further violence. A large part of the Unit's work involves referrals to lawyers for legal advice and representation in making applications for Restraint Orders. Crisis workers will accompany clients to see lawyers, to go to Court and to see the police in order to proceed with assault charges.

The Crisis Intervention Unit administers the Domestic Violence Prevention Program. Access to a telephone is seen as an important means of obtaining assistance in case of further violence and enforcing Restraint Orders. The program enables the Unit to pay telephone installation costs for families being threatened with violence. This fund was also used to improve

household security (i.e. to purchase and install security fixtures) where the perpetrator was breaking into the house in order to further assault the partner. The cost of motel accommodation can also be paid under this program, where government funded shelters are full or inappropriate. During this financial year 34 families were assisted under this program.

The use of women's shelters and other types of emergency accommodation by women coming to the Unit has increased substantially. The use of legal services on the other hand seems to be decreasing.

MOVE

MOVE, an acronym for Men Overcoming Violent Emotions is a community organisation based in Hobart funded by the Department for Community Welfare and Mental Health Services Commission. The aim of the organisation is to help men discover non-violent ways of dealing with frustrations, fear, hurt and anger. Set up in 1985 MOVE is contacted by an average of 14 men a month seeking help to change their pattern of behaviour. MOVE attempts to give men who abuse their spouses an insight into their behaviour in a non-judgemental environment.

Men are taught to behave without resorting to violence, and learn to break a cycle of behaviour that's often learned in childhood. It does this through therapy and counselling, by helping men understand why it is they behave as they do and providing practical advice on how to recognise the danger signals and to resolve conflict without violence. Studies have shown that as many as one in three families in Tasmania suffers from domestic violence, and the perpetrators are mostly men.

Neighbourhood Houses

The aim of Neighbourhood Houses is to provide resources for individuals and families, close to the people who need them, i.e. in the neighbourhood.

Community groups who have broad local community support and interest to develop a Neighbourhood House are eligible for assistance

11.22 TASMANIAN GOVERNMENT GRANTS TO NEIGHBOURHOOD HOUSES 1988-89

House	\$
South -	
Bridgewater Neighbourhood House	7 830
Chigwell Neighbourhood House Committee	13 850
Clarendon Vale Neighbourhood Centre	19 020
Dunalley Neighbourhood House	4 000
Gagebrook Neighbourhood Centre	16 230
Geeveston Neighbourhood House	15 100
Goodwood Community Centre	13 000
Karadi Aboriginal Centre	20 000
Maranoa Heights Neighbourhood Centre	16 740
Midway Point Neighbourhood Centre	13 935
Risdon Vale Neighbourhood Centre	13 950
Rokeby Neighbourhood Centre	10 975
Warrane/Mornington Neighbourhood Centre	13 250
West Moonah Community Action Group	8 430
Westwinds Community Centre	18 000
North -	11 100
Beaconsfield Municipality	1816
Deloraine Community Research Centre	9 747
Fingal Neighbourhood House Association	15 660
Mowbray Neighbourhood House	16 550
Ravenswood Neighbourhood House Rocherlea Community Centre	17 437
Social Action Group	11 960
St Helens Neighbourhood Centre	13 140
St Helens Neighbourhood Centre	13 140
North-west -	
Acton/Shorewell Community House	13 120
Devonport Community House	17 190
Rosebery Neighbourhood Centre	16 500
Savage River Neighbourhood House	13 720
West Ulverstone Community House	12 850
Zeehan Neighbourhood Centre	12 900
Total	388 000

Source: Department for Community Welfare Annual Report.

by the Government for developmental costs and for ongoing operational costs. The Neighbourhood Houses are managed by representatives of local communities.

Neighbourhood Houses provide a wide range of community services including recreational activities, child care, fitness classes, life skills classes, adult education, volunteer services, meeting facilities, community newsletters, effective parenting courses, food co-operatives and ante-natal clinics. The mix of these and other activities depends upon the specific interests and needs of the community operating the

Neighbourhood House. Free back-up child care is available to allow parents and care-givers the opportunity to participate in activities.

Neighbourhood Houses are located in isolated areas of the State, such as Savage River, Rosebery, Zeehan, St Helens, Geeveston and Dunalley, as well as in urban areas.

There are currently 28 Neighbourhood Houses in various stages of development throughout the State. Most Houses average 200 contacts per week. It is estimated that the Program attracts more than 30 000 hours in voluntary labour per annum.

The Neighbourhood Houses Grants Program subsidises the operating costs of houses by making a contribution towards rental, power, telephone and administrative costs, and a contribution to the salary of a part-time co-ordinaor.

11.3 VOLUNTARY AGENCIES

It has long been recognised that many welfare services are effectively and efficiently provided by the many voluntary welfare agencies which operate throughout the State.

The non-government sector can usually respond swiftly to emerging community needs and can also provide significant voluntary support to funded services.

In an environment of increasing levels of need, and increasing scrutiny of the spending of the welfare dollar, it is important to ensure that funded programs complement rather than duplicate existing services.

In 1988-89 the Department for Community Welfare was allocated \$19 million by the State Government for community welfare. In that

year the department provided \$1.6 million to assist non-government welfare organisations. In addition to receiving government grants, voluntary agencies rely heavily on voluntary labour and donations from the public to provide assistance to needy families. Services provided include shelter for the homeless, provision of household items, food parcels, clothing and toys for families in need, as well as counselling and support services. Many organisations also provide long-term accommodation in hostels and homes for invalid and elderly people.

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Chapter 12

TOURISM

Tourism has long been associated with Tasmania. The island State's unsurpassed beauty and variety of attractions make it the ideal place for rest and relaxation for both visitors and Tasmanians alike. Our heritage has always been an important drawcard, evident in the overwhelming interest in the 'Tall Ships' visit during Australia's Bicentennial year. However, our wilderness areas have also received much publicity and are playing an increasing role in luring holidayers to explore the unique attractions Tasmania has to offer.

12.1 VISITORS

Over recent years tourism has become a significant contributor to the Tasmanian economy. During 1988 visitors to the State spent approximately \$308 million, generating employment for 18 000 people; more than nine per cent of the State's workforce.

In that year 681 500 passengers arrived in Tasmania from interstate and New Zealand of whom just under 60 per cent were visitors. This shows a marked improvement in comparison with recent years where the number of visitors

12.1 ESTIMATED PASSENGER ARRIVALS TO TASMANIA ('000)

Period	Passenger arrivals	Visitors	
1978	557.2	317.3	
1981	591.6	337.5	
1984	580.5	315.5	
1986	629.6	329.1	
1988	681.5	406.6	



In 1988 33.7 per cent of visitors to the State visited the Cataract Gorge in Launceston.

fluctuated between 315 500 and 329 100 or between 52 and 58 per cent of the total number of passengers arriving during the year.

The number of visitors arriving in Tasmania has increased 28 per cent since 1978 while passenger arrivals, which include Tasmanians returning to the State, have increased by 22.3 per cent over the same period.

Much of this increase occurred in the last two years. Since 1986 the number of visitors arriving has increased by 23.6 per cent while the total number of passenger arrivals rose by only 8.2 per cent.

Most of the visitors to the State have been Victorians although the proportion has dropped from 51 per cent in 1978 to 42 per cent in 1988.

12.2 ORIGIN OF VISITORS TO TASMANIA (%)

State/country			
of origin	1978	1984	1988
Victoria	51.3	45.0	41.8
NSW	20.7	24.2	21.0
ACT	3.2	3.5	3.9
SA and NT	8.5	8.0	7.0
Qld	7.4	7.3	8.1
WA	3.9	4.5	3.7
Europe	1.1	2.8	4.2
North America	1.1	2.3	6.0
New Zealand	1.4	1.5	2.6
Other overseas	1.3	0.7	1.7

This fall is partly compensated by increases in visitors from Queensland but the most significant compensating trend is the increase in the number of overseas visitors rising from just under five per cent in 1978 to 14.5 per cent in 1988. Of these, most are from Europe, North America and New Zealand.

Most visitors, around 70 per cent, come to Tasmania to holiday and about 20 per cent come for business reasons.

12.3 REASON FOR VISITING TASMANIA (%)

Reason	1978	1984	1988
Holiday -			
To meet friends or relatives	28.9	28.8	28.6
Fly/drive tour	n.a.	n.a.	19.7
Coach tour	5.9	5.9	6.8
Other holiday	36.3	34.5	16.2
Other -			
Sporting event	4.0	6.7	3.2
Convention	3.6	4.8	4.8
Business, other purpose	21.3	19.3	20.7

More holiday makers come to see friends and relatives than for any other reason. In 1988 an estimated 102 300 (almost 40 per cent) holiday visitors came to Tasmania for this reason. Another 98 400 (38 per cent of holiday visitors) came on self-driven tours.

Passenger Arrivals on the Abel Tasman

In July 1985 the *Abel Tasman* took over the Melbourne-Devonport passenger service from the *Empress of Australia*. From figures of arrivals during its first three full years of operation, it is apparent that the larger capacity ferry has achieved an increase in the total passenger traffic between Victoria and Tasmania.

12.4 PASSENGERS ARRIVING IN TASMANIA

	Ву	air		
Period	Interstate	New Zealand	By sea	Total
1 eriou	mersiate	Zeuiuna	Бузец	1 Olul
1981	520 601	9 762	61 336	591 699
1982	516 140	6 863	60 767	583 770
1983	493 075	7 004	63 587	563 666
1984	512 257	7 054	61 039	580 350
1985	550 045	8 4 1 9	69 113	627 577
1986	524 342	10 136	95 139	629 617
1987	526 517	9 446	88 343	624 306
1988	571 344	8 625	101 572	681 541

Source: Department of Tourism.

Because of the increase in ferry usage the State Government has decided to replace the *Abel Tasman* by the early 1990's with a much larger ship, capable of carrying 400 more passengers. The new ferry will pick up latent demand in peak periods and will cater for the budget traveller with deck chair facilities as well as plush cabins for those seeking luxury.

In the meantime, the Abel Tasman which celebrated its 1000th crossing in September 1988, continues to set new records for the Bass Strait run. In January 1989 it carried a record 22 022 passengers and 6198 vehicles, the highest number for any month since it began operating in July 1985. During the pilots' dispute the Abel Tasman arrived in Devonport on 8 September 1989 with a record 1100 passengers on board, the largest number of passengers to be brought into Tasmania on one crossing in the history of Bass Strait sea passenger services. During the financial year 1988-89 the Abel Tasman raised almost \$12.7 million in freight revenue and carried a total of 216 768 passengers and 55 294 vehicles between Devonport and Melbourne.

Well over a third of visitors include the Port Arthur penal settlement and Cataract Gorge on their itinerary; approximately a quarter go to Mt Wellington in Hobart, while the Gordon River, VISITORS 155

Cradle Mountain, and Lake St Clair are all frequently visited. Cradle Mountain (up seven per cent since 1981) and Richmond Village (visited by 29 per cent of visitors in 1988) are attractions continually increasing their popularity.

Mt Wellington Lookout

A glass-fronted observation shelter was built on the pinnacle of Mt Wellington to provide a comfortable viewing platform for the estimated 250 000 people who make the trip to the summit each year.

Officially opened in December 1988, the fully enclosed shelter replaced an open observation site and provides a spectacular uninterrupted view of greater Hobart, the Derwent, Bruny Island and Storm Bay.

Until 1988 Port Arthur had consistently attracted about 50 per cent of all visitors. The drop in numbers to 38 per cent in 1988 is partly attributable to the introduction of entrance fees at the historic site in October 1987.

12.5 PLACES VISITED IN TASMANIA

Places	1981	1988
Port Arthur historic site	51.2	38.1
Lake Pedder	18.4	11.0
Mt Field National Park	16.8	13.8
Mt Wellington	38.9	25.7
Mt Nelson look-out	19.5	14.0
Coles Bay/Freycinet Peninsula	13.1	12.5
Cataract Gorge	37.6	33.7
Central highlands/Great Lake area	13.0	9.9
Mole Creek caves	12.5	n.a.
Cradle Mountain	11.3	18.5
Lake St Clair	19.8	17.8
Gordon River	23.5	19.6
Richmond Village	n.a.	29.1
Maria Island National Park	n.a.	3.5
Bruny Island	n.a.	4.6
Lake Barrington	n.a.	6.9
Far south-west (Port Davey area)	n.a.	3.0

Among activities undertaken, sightseeing and touring, and visiting historic sights are still the most popular. The casinos attracted about 38 per cent of visitors while visiting museums and art galleries attracted a third of all visitors in 1988.

12.6 HOLIDAY ACTIVITIES UNDERTAKEN IN TASMANIA (%)

Activity	1978	1984	1988
Visiting casinos	52.9	47.6	37.6
Bushwalking or climbing	27.2	24.1	16.3
Organised sport	6.5	4.9	3.7
Visiting historic sites	62.2	56.0	49.4
Sea fishing	7.4	5.7	3.5
Trout angling	5.0	3.5	3.2
Sightseeing and touring	68.7	61.4	54.8
Snow skiing	1.3	0.4	0.5
Canoeing or boating	5.5	6.4	4.3
Scenic flights	2.5	2.7	2.1
Day or half-day cruises	n.a.	n.a.	22.9
Walking tour/4WD	n.a.	n.a.	2.2
Caverneering/visiting caves	n.a.	n.a.	13.8
Visiting museums/art galleries	n.a.	n.a.	33.2

Most visitors stay with friends or relatives, although the percentage has declined. The offsetting change has been the increased occupancy of commercial holiday unit accommodation (up nearly seven per cent since 1981).

12.7 ACCOMMODATION USED BY VISITORS TO TASMANIA (%)

1978	1984	1988
42.1	41.4	38.4
27.8	27.0	26.8
6.5	5.8	4.4
2.2	2.6	3.9
4.1	3.4	3.0
2.1	4.9	9.0
1.2	2.1	1.5
2.4	2.8	3.3
n.a.	n.a.	2.0
n.a.	n.a.	2.3
9.3	8.3	5.4
	42.1 27.8 6.5 2.2 4.1 2.1 1.2 2.4 n.a. n.a.	42.1 41.4 27.8 27.0 6.5 5.8 2.2 2.6 4.1 3.4 2.1 4.9 1.2 2.1 2.4 2.8 n.a. n.a. n.a. n.a.

Colonial and host farm accommodation account for two per cent of all nights spent in Tasmania by visitors and are most popular with those on self-driven tours.

During 1988, holiday unit establishments continued to provide expansion in tourist accommodation. Both the number of units available and the number of accommodation nights provided, increased by over nine per cent while the rate of occupancy remained fairly constant.

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In addition, caravan parks have increased the number of on-site cabins to cater for the demand for this type of accommodation. In 1981 there were 66 cabins in Tasmanian caravan parks. By December 1988 this number had nearly trebled to 176. During 1988 alone, the number of cabins rose 18 per cent from 149 to 176.

12.8 ACCOMMODATION CAPACITY, TASMANIA

Accommodation	At December		ber
establishment	1981	1987	1988
Hotel rooms with private			
facilities	2 603	3 063	3 137
Motel rooms	1 488	1 412	1 486
Holiday units Caravan park sites,	n.a.	686	748
cabins	4 850	5 803	5 967

This increase in capacity for all types of accommodation has contributed in part to the general decrease in occupancy rates in 1988.

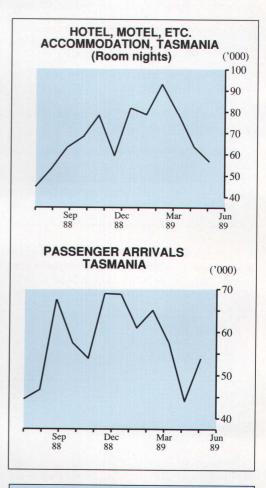
12.9 ACCOMMODATION OCCUPANCY RATES, TASMANIA (%)

Year	Hotel, motel rooms	Holiday units	Caravan park sites
1983	48.0	58.4	22.7
1984	50.3	58.0	22.3
1985	54.6	61.5	21.7
1986	52.6	56.3	22.1
1987	50.0	52.9	20.6
1988	46.5	51.9	20.2

However, occupancy rates for 1989 have already shown vast improvement. During the March quarter the rate for holiday units increased by 19 per cent on the same period during 1988 while hotels, motels and guest houses, and caravan parks increased by six and 12 per cent respectively. The World Sheep and Wool Congress which attracted 1500 visitors to Tasmania added to the good season experienced by accommodation establishments.

Occupancy rates for all types of accommodation establishments exhibit marked seasonality. The winter months of July, August and September have the lowest occupancy rates while January, February, March, have the highest rates.

Seasonality in occupancy reflects the pattern of passenger arrivals into the State, except in December when visitors arrive to spend Christmas with family and friends.



Australian Tourism Awards 1988

The Rutherglen holiday complex at Hadspen near Launceston won the Specialist Accommodation sector of the Australian tourism awards which attracted a record 158 entries in 14 categories. Developed 10 years ago, Rutherglen features a sports centre, convention and dining facilities and a zoo. The accommodation is in the form of self-contained cabins and motel units.

Tanzi Lewis of the *Mercury* won an award in the Print Media Section and the Touchwood Gallery, in Stanley, received an honourable mention in the Tourist Shop and Souvenir Category.

National Tourism Week

Tourism week was celebrated in Tasmania on 15-25 June 1989 as part of a national program of activities designed to underline the importance of Australia's fastest growing industry at national, State and regional levels.

The activities which took place throughout the State were part of a major campaign, under the banner, 'Tourism - The Key to Australia's Future' which aimed to:

- Encourage consumers to holiday within Australia and in the case of Tasmanians, within their own State.
- Involve regional tourism interests in the positive benefits of developing tourism within their own area.
- Educate students about the value and the contribution made by tourism to the economy at all levels and the career opportunities offered by the industry.

In Tasmania the activities included a major Careers Expo for students, and open days by operators within the industry.

12.2 NEW INITIATIVES IN TOURISM

Tasmania has continued to experience significant growth in its tourism industry and is well on the way to meet industry expectations for the 1990s.

Results from the Tasmanian Visitor Survey have shown an annual growth rate of over 13 per cent to the visitor market since 1986. The most noticeable increase was international visitor arrivals which rose by 102 per cent.

Tasmania has made significant inroads into the international markets particularly Japan and North America.

Negotiations have seen the successful introduction of a new Qantas flight between Sydney and Hobart, a service which has direct linkages for Tasmania to Tokyo, San Francisco and London. This provides additional potential tourist markets for the State and has been actively supported with joint advertising campaigns.



The first Qantas service linking Hobart with international connections began on 8 February 1989. Photo: Qantas

As a result, Tasmania can be promoted and sold as a truly international visitor destination as part of an overall Australia package for those visiting say Cairns or Sydney or flying direct from New Zealand.

A new initiative has been the appointment of a European tourism representative to promote the State in this market in anticipation that increasing interest from the United Kingdom, Germany and Scandinavian Countries will be generated. Market research has been essential to determining Tasmania's role in the international arena and, through a joint Commonwealth/State consultancy package, the Australian Tourist Commission is engaging consultants to review the USA, UK, European and Japanese markets. The results will provide positive directions for future marketing of the State in these markets.

Although the domestic travel sector was significantly affected by the attractions of Expo '88, Tasmania still held its own in the market place.

Major promotional campaigns in autumn and spring used the theme 'Tasmania - Naturally Different' with the Joe Cocker composition 'You Are So Beautiful'.

^{*}This article was prepared by Tourism Tasmania.

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The campaigns were synonymous with the release of a new brochure range 'Tasmania's Temptation Holidays', a series of six individual holiday packages.

As part of an image change Tourism Tasmania was restructed to provide a marketing sales force in each of the Australian States. Improved marketing of conventions and servicing of travel agents has resulted, enabling the State to compete directly with our competitors.

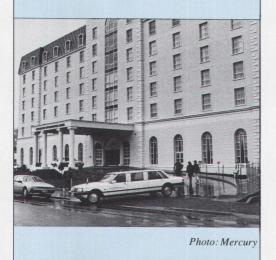
Infrastructure development has continued to expand with the recently completed Launceston International Hotell

Launceston International Hotel

The \$44 million Launceston International Hotel, the first five-star hotel in the heart of the city, was opened in August 1989.

The eight-storey, 165-room hotel represents the city's largest private development in more than 50 years. The project took six years to plan and construct. The developer, Mr Robert Hosken, recognised that Tasmania had to establish international standard facilities to attract overseas visitors.

The hotel's restaurants, bars and function areas are expected to cater for the people of Launceston and Tasmania as well as overseas visitors.



A number of new projects are in the planning stages including, the Safety Cove Retreat at Port Arthur (\$50 million), Island State Resort near

Hobart (\$100 million), Burnie International Hotel (\$9 million), Kabuki Motel and Japanese Restaurant, Swansea (\$1.5 million). Developers are conscious of the need to complete projects in harmony with the environment particularly where wilderness attractions are concerned.

Bass Strait has always served as a barrier to tourists visiting the State. However, with regular air services and the well established *Abel Tasman* car ferry, this obstacle has been overcome. On the horizon, new services are being considered with the replacement of the *Abel Tasman* for a larger vessel and the introduction of a new catamaran service.

New Bass Strait Ferry

A contract was signed to build a \$16 million high-speed Bass Strait ferry to connect George Town and Port Welshpool in Victoria.

The 350-passenger, 80-vehicle ferry, to be built by International Catamarans, is expected to be operating by late 1990.

The revolutionary 40-knot wave-piercing catamaran is expected to provide a \$35 million a year boost to the State's tourism industry with the service providing an extra 250 000 passenger seats annually into Tasmania.

The Strait crossing will be cut to 4 hours, leaving George Town at 8 am and arriving at Port Welshpool, two hours drive from Melbourne, before noon.

Fares are expected to be about half that of an economy air fare and motor vehicle costs are expected to be about 80 per cent of those charged by TT-Line on the *Abel Tasman*.

Tasmanian tourism has continued to grow through the eighties and will provide an attractive area for investment in new and improved infrastructure.

In October 1990 deregulation of the domestic airlines will see significant changes in the airline services to the State. Whilst there is variation in opinion as to how this will affect the operation of the tourism industry, the overall effect on the Australian network will be widespread.

Derby Tin Mine Centre

The Derby Tin Mine Centre, at Derby in north eastern Tasmania is a museum and mining town re-creation. More than a century ago the area attracted adventurers and immigrants; some were drawn by the discovery of tin while others came to farm the rich land in the area. The discovery of tin sparked the growth of booming townships, many of which virtually faded back into the bush when the boom passed.



The Shanty Town.

At the Centre the old school houses the mining museum, and in the grounds are timber and corrugated iron buildings. Much of the material is original and gathered from the Derby district. There is a miner's cottage, a butcher's shop, general store, blacksmith's shop and a mine office.



Miner's Cottage.

Photos: Derby Tin Mine Centre

The Centre captures the atmosphere of last century when thousands of people, many of them Chinese, came to the area to work the mines between 1876 and 1929. The first Chinese reached the district in 1879 and by 1900 Derby had a population of 3000. Today the population is less than 200.

12.3 COUNTRY AND COLONIAL ACCOMMODATION

12.3.1 Country Accommodation

(By Henry Brigden, Secretary of the Country Accommodation Association.)

Tasmania offers visitors a unique holiday experience, combining early history and architecture, natural scenic beauty and wilderness, together with four distinct seasons, each with its own attraction.

Not unnaturally, many first-time visitors try to experience most parts of Tasmania in a few days, staying briefly in different parts of the State. Fortunately, Tasmania offers a range of accommodation choices, which makes such a holiday both possible and successful.

An ever increasing number of visitors has discovered a truly unique range of alternative accommodation throughout the State, which includes a wide range of colonial and historic homes and cottages, many close to either Hobart or Launceston, together with a wide range of holiday accommodation on country properties, host farms and small rural guest houses, spread throughout the State.

This accommodation can be broadly classified as being either in-house, somewhat similar to the now well known English Bed and Breakfast establishments, or as being self-contained, sometimes with meals being available, or possibly also self-catering. These self-contained units vary from being part of the main homestead to being separate cottages or units possibly some distance from the home.

At June 1989, there were approximately 80 such properties in Tasmania licensed to accommodate a small number of visitors. Each is uniquely different, and all offer guests country hospitality.

Country Accommodation offers individuality together with a high standard of comfort and amenities, and personal hospitality, whether in-house or self-contained. Some are situated on large working farms, others are on small acreage, or hobby-farms, some have strong historical associations and all are in fine rural settings, with vistas over the landscape, or

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delightful water views, or both. Several are within easy driving distance of major centres and visitor arrival and departure ports. Many offer visitors the opportunity to join in rural activites; all offer the opportunity to sample country living.

While tariffs vary, the average would be between \$45 and \$55 per couple per night (one or two are less or more expensive), and this includes either a cooked country breakfast, or in the case of self-contained and self-catering establishments, the supplies for breakfast. Several also offer long-stay and/or seasonal discounts.

Gateforth Cottage

In the north west, Gateforth Cottage at Black River is a fine example of Country Accommodation. There is a fully equipped self-contained house for guests on a large family farm overlooking the Nut at Stanley. Whether for a night or for a week's total holiday, visitors will be made welcome, and although guests may be fully self-catering, hostess Christine Medwin is happy to supply gourmet meals.

Holly Tree Farm

In the south, Holly Tree Farm, at Middleton, offers in-house bed and breakfast accommodation for up to four persons, in two rooms, each with full en-suite bathroom; a private sitting room, a sun-deck and a large garden overlooking the beautiful D'Entrecasteaux Channel and Bruny Island. Meals featuring home grown produce are a regular feature: intimate fireside dinners for two, for special occasions are a specialty of the house.



Holly Tree Farm

Photo: Henry Brigden

Silver Ridge Retreat and Mountain Valley

Excellent at any time, but offering guests a taste of Tasmania's mountain wilderness in the winter, are Silver Ridge Retreat, under Mount Roland and close to both Cradle Mountain and Lake Barrington, and Mountain Valley Cabins, at Loongana. Both offer self-contained family accommodation, either self-catering, or with meals provided, by arrangement. All other establishments, in the north west, the north, the north east, the central district, the midlands, the east coast and the south, offer their guests a quality holiday experience, uniquely country Tasmanian, with friendly caring hosts, knowledgeable in their region's special attractions.

A recent survey of guests revealed that in 1988-89, approximately 25 per cent were Tasmanians taking intrastate holidays, 25 per cent were from Victoria, 20 per cent were from New South Wales, 10 per cent were from Queensland, 10 per cent were overseas visitors, four per cent were from each of South Australia and Western Australia, and two per cent were from the Australian Capital Territory.

It is noteworthy that many visitors once they have discovered Country Accommodation, especially many from Victoria, come back repeatedly, having more leisurely holidays, in just one or two regions.

From the small beginning, wholesale package bookings have shown a regular annual increase. In 1987-88 there was a 22 per cent increase over 1986-87: 1988-89 finished in excess of 77 per cent over 1987-88.

Country Accommodation Association

In 1984 a handful of operators, realising the high cost of advertising and the difficulties in effectively marketing their properties to a large market spread throughout Australia as well as overseas combined to advertise in a single brochure. This was followed by a package holiday offered through Tourism Tasmania Travel Centres, throughout Australia.

The Country Accommodation Association has members spread throughout most regions of the State. Next year will see an increase in intrastate and interstate marketing, as well as some overseas promotion, by the Country Accommodation Association. The Association is conscious of the potential to increasingly tap the expanding overseas market, with its unique product.

12.3.2 Colonial Accommodation

(By Lynne Agnew, President, Tasmanian Colonial Accommodation Association.)

Privately owned and operated, the establishments in the Tasmanian Colonial Accommodation Association range from an old sea captain's cottage through coaching inns, convict built barns and convict out-stations, to gracious country mansions and cottages. Like Tasmania itself, all are steeped in history. Each has its own story to tell of ghosts, bushrangers, penal punishments, eccentric past owners or of historic roles in the State's past.

Some of the establishments are set in Tasmania's beautiful country side. Others in historic villages and suburbs, in an apple orchard and on the coast overlooking the sea.

Some cottages are self-contained with their own charming country kitchens and cottage gardens, while others serve traditional breakfasts in their dining rooms. Two establishments have their own licensed restaurants and three have restaurants attached.

To classify as Colonial Accommodation, buildings must pre-date Federation, i.e. 1901, be furnished appropriately and have a colonial ambience. There is a good dispersion of Colonial Accommodation around Tasmania allowing the traveller to do the popular eight day package covering most of the State.

The self-contained cottages attract family groups as they present a less formal and economical type of accommodation while still offering a unique way of seeing the State. However, the majority of people who stay in Colonial Accommodation are couples, often honeymooners, as the establishments offer a charming alternative to conventional accommodation available elsewhere.

Bookings are made directly with the owner, allowing immediate personal contact, or through Tourism Tasmania, TT Line, Ansett, Australian Airlines, Destination Australia or Travel Agents anywhere in Australia.

Some examples of the various establishments around the State include: 'Laughton House', at Stanley, a gracious home with marvellous ocean views; 'The Old Bakery Inn' (1870) in Launceston, originally a bakery with its own superb restaurant; 'Wagner's Cottage' (1860) at Swansea, a two-storey farm cottage of local stone; 'Cas-

cades' (1830) at Koonya on the Tasman Peninsula, a former hospital and officers' quarters situated in an orchard; and 'Waverley Cottage' (1854), a quaint two-storey fairytale cottage with a large open fire situated on the owners' farm at Oatlands.



Waverley Cottage.

Photo: Lynne Agnew

Colonial Accommodation is not only a very successful tourist venture; it is also a very successful business venture and as happens in these cases there is quite a turn over of both tourists and establishments. At the time of printing those mentioned earlier were current financial members of the Tasmanian Colonial Accommodation Association. The Association has 21 members covering 29 establishments (110 units) containing approximately 300 beds throughout the State.

Their occupancy rate is high all year round. One reason for their success is due to the fact that Colonial have a unique product, not only in Tasmania but unique to Australia. They have been operating successfully now for eight years. Newspapers, magazines and books still find Colonial newsworthy, nationally and internationally.

The difference between Colonial and the conventional style of accommodation is that each establishment is small enough to remain personal. The traveller is known by name, not number, the buildings have been individually renovated and decorated by the owners who, in many cases, have done most of the work themselves. This gives the feeling of care and love and atmosphere. The majority have open fires, all have charm, history, individuality, antique warmth, comfort, romance and each is uniquely different.

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12.4 TASMANIAN WILDERNESS HOLIDAYS

Tasmania has more of its area than any other Australian State vested in national parks, more than 9000 square kilometres of its total 68 000 square kilometres. Three national parks, the South-West National Park, the Franklin Lower Gordon Wild Rivers **National** Park and Cradle Mountain-Lake St Clair together are listed on the register of World Heritage. It is here and in the other alpine and wilderness areas that hardy bushwalkers, climbers, rafters and amateur back-packers are able to find a wilderness holiday to suit their requirements as well as their ability.

Tasmania has 14 national parks roughly grouped into coastal, alpine and wilderness. The coastal parks are more popular, offering, in most instances, easy access and a greater variety of facilities.

Asbestos Range National Park on the north coast comprises beaches, coastal hills, a small lagoon, small off-shore islands and heathland and is close to popular holiday resorts. It offers outdoor activities such as, camping, swimming, boating, water-skiing, fishing, bird watching and walking. Camping areas are provided at Bakers Beach and Badger Head while accommodation and visitor facilities are provided at the nearby towns of Port Sorell and Beauty Point.

Freycinet National Park, mid-way on the East Coast is a striking combination of red granite mountains, white sand and crystal clear water. The beaches, boating, fishing, swimming and bushwalking attract many visitors to the area, particularly during the summer. The park has a series of well-defined walks, most of them within the capability of the average visitor. Coles Bay and the nearby towns of Bicheno and Swansea offer accommodation and visitor facilities.

The Ben Lomond National Park, 50 kilometres south east of Launceston, one of Tasmania's two principal ski-fields, is a large alpine plateau, with the highest peak, Legges Tor, rising to 1573 metres. Facilities include an alpine village, the Ben Lomond Creek Inn, which offers a tavern, accommodation, and ski village with ski tows and a public shelter.

Cradle Mountain-Lake St Clair National Park in the western Central Highlands is Tasmania's best known national park and is famous for the beauty of its mountains and lakes and for the 85 kilometre walking track from Cradle Valley to Lake St Clair. The park contains numerous highland tarns and lakes, streams and waterfalls and mountain peaks, including Tasmania's highest mountain, Mount Ossa (1617 metres). The overland walk is normally made in four, five or more daily stages, sheltering overnight at one of the 12 basic, unattended huts along the way. Walkers are urged to register with rangers. For those wishing to combine wilderness with comfort the Cradle Mountain Lodge provides chalet-style and self-contained cabin accommodation, a restaurant and tavern with food and petrol sales.

The Franklin-Lower Gordon Wild Rivers National Park includes the Franklin River, the broad lower reaches of the Gordon, Frenchman's Cap, rain forest and unsurpassed temperate wilderness. The Franklin attracts the hardiest and most experienced, and has a reputation of providing some of the world's best white water rafting. In contrast, The lower Gordon river can be seen from the comfort of cruise boats which leave from the West Coast port of Strahan.

The South-West National Park is Tasmania's largest national park and attracts experienced bushwalkers and climbers from around the world. The park encompasses the majority of Tasmania's temperate wilderness, an area of rugged mountains, dense rain forest, button grass plains, swift flowing rivers and isolated coastline. Although road access to the southwest is limited, excellent views of the surrounding wilderness area can be seen from the road. Sightseeing can also be undertaken by light aircraft. Strathgordon, the only town within the Park has accommodation and visitor facilities, including boat ramps on the shores of Lake Pedder noted for its trout fishing.

12.5 REFERENCES

ABS Publications Produced by the Tasmanian Office:

Measures of Tasmanian Tourism, 1988, (8637.6)

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Chapter 13

AGRICULTURE

While a variety of new crops such as blueberry, pyrethrum, buckwheat, and essential oils have been introduced to Tasmania in recent years, the mainstay of the State's agricultural industry continues to be wool, fat lambs, beef, dairying, and vegetable growing.

In the year 1987-88 the value added by the industry was just under \$182 million, only \$26 million less than that contributed by the mining industry. Almost 66 per cent was contributed by livestock and livestock products, of which half was attributable to dairying.

At 31 March 1988 there were 3499 establishments in Tasmania with an estimated value of agricultural output of \$20 000 or over. Of these, 3434 were classified to the agricultural industry (i.e. their main productive activity was agricultural production). Most of the agricultural establishments are owner-operated or family partnerships. Very few are operated as limited liability companies.

13.1 VALUE OF AGRICULTURE

Based on information from the annual agricultural finance survey, the per capita net worth of Tasmanian agricultural enterprises at 30 June 1988 was \$692 000.

This comparatively low value (only Victoria had a lower per capita net worth of agriculture establishments - \$666 000) is partly a reflection of the generally smaller scale of agricultural operations in Tasmania compared with other States. The per capita net indebtedness for Tasmanian agricultural enterprises at 30 June



Harvesting oil poppies near Lower Barrington.

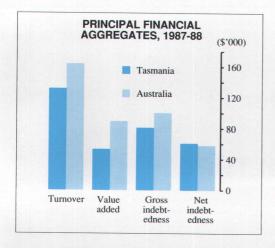
Photo: Advocate

13.1 MAIN FINANCIAL AGGREGATES TASMANIAN AGRICULTURAL ENTERPRISES, 1987-88

	Amount (\$m)	Per agricultural enterprise (\$'000)
Turnover (a)	451.4	131.7
Value added	181.9	53.1
Value of assets (b)	2 650.9	773.3
Gross indebtedness	277.1	80.8
Net indebtedness (c)	209.0	61.0
Net worth	2 373.7	692.4

(a) Turnover and figures derived from it (such as value added), includes receipts from non-agricultural activities of agricultural enterprises (e.g. cartage revenue).

(b) Includes value of land, buildings, farm equipment, livestock. (c) Gross indebtedness less the value of financial assets.



1988 was \$61 000. The national average per capita net indebtedness was \$58 300.

During 1987-88, 43 per cent of turnover was derived from the sale of livestock products. Virtually all of this was accounted for by the sale of wool and milk. Nationally, only 32 per cent of turnover came from livestock and products. The relatively high percentage of turnover attributable to the sale of livestock products points to the importance of dairying in the State's agricultural

13.2 SELECTED FINANCIAL STATISTICS, TASMANIA (\$m)

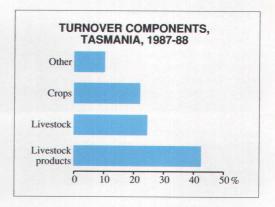
	1986-87	1987-88
Turnover-		
Sales from crops	103.9	100.4
Sales from livestock	121.4	111.4
Sales from livestock products	136.3	192.8
Rent and leasing revenue		
(other than land)	2.0	2.7
Miscellaneous	25.5	44.1
Total	389.0	451.4
Less -		
Purchases and		
selected expenses	205.7	243.3
Value added (a)	117.2	181.9
Less -		
Rates and taxes	5.1	6.2
Insurance payments	6.1	7.4
Other expenses	11.1	12.8
Adjusted value added (a)	95.0	155.5
Less -		
Wages, salaries and		
supplements	47.3	55.2
Gross operating surplus	47.7	100.3

(a) Includes an estimate for the value of the increase (decrease) in the value of livestock not shown separately.

industry. Nearly 45 per cent of turnover from livestock products was attributable to the milk cattle industry (i.e. principally the sale of milk). Sales from crops in Tasmania were 22 per cent of total turnover; nationally the proportion was 35 per cent. The national proportion is boosted by the sales of cereal grains - principally wheat and to a far lesser extent barley.

Wheat and barley are insignificant in the Tasmanian scene - the principal contributors being vegetable crops and orchard fruit. The other big contributor to Tasmanian agricultural turnover was sales of livestock. Just under 25 per cent of turnover came from this source in 1987-88. The national proportion was much the same. The two main contributors to both the State and national totals were sales of sheep and cattle.

Total turnover increased to \$451.4 million in 1987-88, 16 per cent above 1986-87 turnover. The component which showed the strongest increase was sales from livestock products. This was due to the very strong prices that prevailed for wool during 1987-88; average auction prices were 72 per cent above average auction prices during 1986-87.



13.3 GROSS VALUE OF AGRICULTURAL COMMODITIES, TASMANIA (\$m)

	1986-87	1987-88
Crops (a)	145.0	188.2
Livestock slaughterings and		
other disposals	111.5	120.0
Livestock products	180.4	239.1
Total agriculture	436.9	547.2

(a) Excludes crops and pasture harvested for green feed or silage.

13.2 LAND USE

There were 3504 establishments involved in commercial agricultural activities in Tasmania in 1987-88. There were a further 1700 sub-commercial establishments involved in limited agricultural activities in 1987-88.

Commercial agricultural establishments occupied 27 per cent of Tasmania's area. Just under 50 per cent of the area of commercial agricultural establishments was under sown pasture or used for crops (cereals, fruit, vegetables, etc). The balance (around 950 000 hectares) was semi-cleared land, bush or fallow and used for rough grazing, forestry or not utilised at all.

13.4 AGRICULTURAL LAND USE, TASMANIA ('000 ha)

Area	1986-87	1987-88
Crops -		
Cereals for -		
Grain	19.2	19.9
Other purposes	14.6	15.8
Legumes	2.0	1.6
Fruit	3.2	3.1
Vegetables	16.7	16.9
Other	22.3	27.1
Total crops	77.9	84.5
Sown pasture	832.4	832.3
Total area of agricultural establishments (a)	1 872.8	1 870.5

(a) Includes area used for 'rough grazing', forestry or not utilised for any specific purpose.

An important agricultural activity is livestock grazing. Eighty per cent of establishments carried cattle (milk or meat) and fifty-five per cent grazed sheep. This combination of meat cattle and sheep grazing is popular in Tasmania; about twenty-five per cent of establishments combine these two activities.

In 1987-88 just over 28 per cent of agricultural establishments carried dairy cattle. However, this was a considerable fall from 10 years earlier when around 38 per cent of agricultural establishments carried cattle for milk.

13.5 AGRICULTURAL ESTABLISHMENTS ACCORDING TO PRINCIPAL AGRICULTURAL ACTIVITIES, TASMANIA, 1987-88

Agricultural	Establish- ments	Proportion of all holdings
Activity	(Number)	(%)
Establishments growing -		
Cereals for grain -		
Wheat	87	2.5
Barley	408	11.6
Vegetables for human		
consumption -		
Beans, French and runner		
for processing	147	4.2
Carrots	44	1.3
Onions	143	4.1
Peas for processing	424	12.1
Potatoes	588	16.8
Any vegetables for human	n	
consumption	833	23.8
Orchard fruit -		
Apples	209	6.0
Establishments carrying -		
Milk cattle	1 001	28.6
Meat cattle	2 609	74.5
Pigs	176	5.0
Sheep	1 938	55.3

13.3 CROPS

The principal cropping activity on Tasmanian farms is growing vegetables for human consumption This is the major cropping activity in terms of both farm area used and value of products.

Most of the vegetable cropping is done along the north-west coastal strip. The area is characterised by deep friable krasnozem soil types and relatively high (900 mm to 1400 mm) and reliable rainfall. The other main vegetable growing area is in the north-east around Scottsdale. Soil and climate conditions are similar to the north-west coastal belt.

Most of the vegetable cropping in Tasmania is for processing. Farmers grow crops such as beans, peas, potatoes under contract to processing companies. Some of the crops are exported interstate and some are sold on the local fresh market. A local Tasmanian company has developed an expanding European export market for onions. This is the reason for the

13.6 AREA OF PRINCIPAL CROPS, TASMANIA (ha)

Crops	1986-87	1987-88
Cereals for grain -		
Barley	8 487	8 024
Oats	7 765	9 560
Wheat	1 729	1 179
Vegetables for human		
consumption -		
Beans, French and runner		
for processing	1 335	1 187
Onions	732	980
Peas (green) for processing	6 708	6 205
Potatoes	5 744	6 380
Total vegetables (a)	16 680	16 921
Orchard fruit -		
Apples	2 615	2 579
Total orchard fruit (a)	2 843	2 787
Hops	854	821
Cereal crops for green feed		
or silage	13 205	13 251

marked increase in area planted to this crop over recent years. In the early 1980s around 550 hectares were planted to this crop. By the end of the 1980s the area had almost doubled to around the 1000 hectare mark.

In both value and area, potatoes are one of the principal crops grown by Tasmanian farmers. The area planted to potatoes has been over 6000 hectares in both 1987-88 and 1988-89. Potatoes are the highest value of all crops - in 1987-88 the value of the potato crop was \$42.9 million.

13.7 GROSS VALUE OF CROPS, TASMANIA (a) (\$m)

	1986-87	1987-88
Cereals for grain	5.9	6.7
Legumes mainly for grain	0.8	0.8
Crops for hay	0.7	1.5
Orchard fruit	29.0	37.3
Berry and small fruit	0.9	1.0
Grapes	0.4	0.6
Vegetables for human		
consumption	62.3	85.3
Other crops	18.8	28.1
Pasture harvested	26.2	27.0
Total	145.0	188.3

(a) Excludes crops and pasture harvested for hay, green feed or silage.

This was some seven million dollars above the value of the apple crop.

A traditional Tasmanian crop is hops. They used to be grown in numerous small plots throughout the Derwent Valley. However, with the introduction of new high yielding varieties and mechanical harvesting in place of hand picking, hop growing has undergone substantial change. Hops are now grown in larger lots suited to mechanical harvesting. As well significant areas in the north-east and north-west have been planted to the crop. These changes have maintained Tasmania's position as the main grower state; around 75 per cent of the Australian total area is grown in Tasmania.

A characteristic of the vegetable growing industry, as with other agricultural activities is the dominance of large producers. This is in part attributable to the high capital cost involved in equipment needed in the industry. In 1987-88 just under six per cent of establishments growing vegetables for human consumption grew al most 26 per cent of the area of vegetables. A further seven per cent of growers accounted al most 18 per cent of the vegetable area.

13.3.1 Potatoes

Tasmania produces in the order of 20 per cent of the Australian potato crop. Most are grown



Harvesting potatoes.

Photo: Mercury

CROPS 167

under contract to vegetable processors and are turned into potato "chips". In recent years the potato crop has been the most valuable single agricultural crop produced by Tasmanian farmers accounting for eight to 10 per cent of the total gross value of all agricultural production.

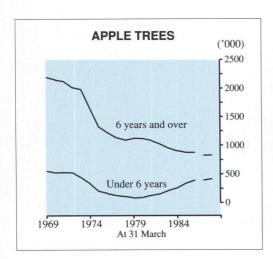
13.8 POTATOES, TASMANIA

Year	Area (hectares)	Production ('000 tonnes)
1983-84	5 203	213
1984-85	5 209	203
1985-86	4 777	193
1986-87	5 744	223
1987-88	6 380	248

Most of the potato crop is grown along the north-west coastal strip stretching from the municipality of Latrobe to Circular Head. Like many other agricultural activities potato growing is dominated by large producers. The largest 13 per cent of growers accounted for 38 per cent of the area of potatoes grown.

13.3.2 Apple Industry

Tasmania is still referred to by many as the *Apple Isle*. This was once an accurate reflection of the importance of apple orcharding to the



State's economy and agricultural industry. Apples contributed around 15 per cent to the total gross value of agricultural production and were one of the State's major overseas exports. Apple orcharding was based on overseas exports to Europe, in particular the United Kingdom. About 75 per cent of the crop went overseas and nearly all to European countries.

Apples are still important to the Tasmanian agricultural industry. They remain one of the two most significant crops in value terms and account for around seven per cent of the gross value of all agriculture. About 20 per cent of the crop is exported overseas of which one third to 40 per cent is exported to Asian markets.

13.9 APPLES, TASMANIA

Year	Number of trees ('000)	Production ('000 tonnes)
1983-84	1 163	56.8
1984-85	1 218	61.6
1985-86	1 256	57.0
1986-87	1 218	48.1
1987-88	1 251	52.9



Apples.

Photo: Mercury

TASMANIAN VITICULTURE *

Tasmania's first vineyards predated those of both Victoria and South Australia. The first vine cuttings taken to both South Australia and Victoria came from Port Arthur. Tasmania's first vineyards were planted in what is now the suburb of New Town by Broughton in 1823. These were taken over by Captain Swanston and apparently, according to the Hobart press, produced wine of exceptional character.

In 1850 Swanston died and his vineyards suffered the same fate. In the 1880s Bernacchi planted a vineyard on Maria Island. This also failed.

Nothing further occurred until 1956 when Jean Miguet planted a small vineyard south of Launceston. No encouragement was given by the Government and local hostility greeted Miguet's innovation. The next attempt was made by Claudio Alcorso who established his Moorilla Estate in what is now a part of the northern suburbs of Hobart. The Moorilla Estate, set up in 1958 is the oldest producing vineyard in Tasmania and is renowned for quality wines. Through Alcorso's foresight, success and encouragement, others have entered the Tasmanian viticulture industry. Although small, the Tasmanian vineyards, have gained a reputation for wines of outstanding quality.

Another pioneering effort in the Tasmanian viticulture industry was by the Pirie brothers (Andrew aand David) who established the Pipers Brook vineyard north of Launceston in

1975. (One of the founding brothers, Andrew, was Australia's first PhD in vine physiology.) The adjacent Heemskirk Vineyard was established the following year. These two vineyards are the largest operating in Tasmania.

Tasmanian wine producers are committed to quality production and protection of Tasmania's name for producing high quality wines. This commitment of producers is backed by legislation which empowers the Licensing Board to monitor production, bottling and labelling. Buyers of Tasmanian wines are guaranteed through the apellation controls, that the bottle of wine is what the label claims it to be. Apellation controls came into force at the beginning of the 1986 growing season.

*This article is based on information provided by the Tasmanian Development Authority.

13.10 AREA OF VINEYARDS AND GRAPE PRODUCTION

Variety	1986-87	1987-88
Red grapes -		
Bearing (ha)	20	21
Non-bearing (ha)	30	19
Total (ha)	50	40
Production (t)	48	89
White grapes -		
Bearing (ha)	23	24
Non-bearing (ha)	23	14
Total (ha)	46	38
Production (t)	100	122



Vineyard. Photo: Mercury

13.4 LIVESTOCK AND LIVESTOCK PRODUCTS

Cattle and sheep are the mainstay of Tasmanian agriculture. Sales of livestock and livestock products account for 65 to 70 per cent of the gross value of Tasmanian agriculture.

13.4.1 Sheep

Despite the diversity of Tasmanian agriculture, sheep are the biggest contributor to the value of Tasmanian agricultural production. Together wool and sales of sheep (for slaughtering and export) contribute an average 40 per cent of the gross value of Tasmanian agricultural output. In recent years this proportion has been somewhat higher due to the buoyant wool prices experienced.

13.11 SHEEP NUMBERS AND WOOL PRODUCTION, TASMANIA

Year	Sheep numbers ('000) (a)	Shorn wool production (tonnes)
1983-84	4 583.3	20 085
1984-85	4 780.1	20 295
1985-86 (b)	4 822.5	20 427
1986-87	4 954.0	20 449
1987-88	4 746.4	19 317

(a) At 31 March. (b) Relates to agricultural establishments with estimated value of agricultural operations of \$20 000 or more; earlier years agricultural establishments with estimated value of agricultural operations of \$5000 or more.

Live Sheep Exports

The overseas live sheep export trade which has developed since the early 1970s is of considerable value to Tasmanian sheep farmers. The exports are to middle-east Islamic nations. Initially, Iran was the main destination but more recently Saudi Arabia and neighbouring Persian Gulf nations have become important markets. The first shipment of sheep was in 1972-73 when 15 500 sheep were sent to Saudi Arabia. Initially exports were mainly aged wethers but in more recent times the exports have included younger sheep.

13.12 LIVE SHEEP EXPORTS FROM TASMANIA TO THE MIDDLE EAST

Year	No. of sheep ('000)	Value (\$m)
1984-85	143.0	3.06
1985-86	255.4	5.41
1986-87	299.3	6.65
1987-88	201.5	4.95
1988-89 p	273.3	6.86

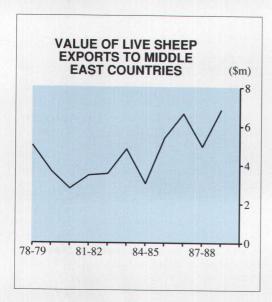
In mid-1989 the live sheep export was seriously threatened by Saudia Arabia when a number of shipments from Australia were banned on the grounds that the sheep were diseased. The diseases that the Saudia Arabian inspection claimed to have detected do not occur in Australia. The shipments refused entry to Saudia Arabia were directed to other Arab gulf states. Due to possible effects on exports of live sheep to other countries, Australia suspended exports to Saudia Arabia in September 1989 pending further discussions with Saudia uthorities.



Live sheep exports.

Photo: Mercury

Loss of the live sheep export trade would be a substantial blow to Tasmanian sheep farmers. The majority of Tasmania's live sheep have gone to Saudi Arabia. The trade has returned to Tasmanian sheep farmers in the order of \$5.5 million to \$6.5 million.



Composition of the Sheep Flock

The structure of Tasmania's sheep flock has been fairly stable over the past two decades. The main change has been in the proportion of wethers, kept for wool production which dropped from around 25 per cent in the 1970s to about 20 per cent in the early 1980s. It has since climbed back up to around the 25 per cent level. The recovery in the proportion of wethers is a reflection of buoyant wool prices experienced throughout the 1980s.

13.13 FLOCK COMPOSITION, TASMANIA (At 31 March)

Type of sheep	1988	
	('000)	(%)
Rams	48.3	1.0
Breeding ewes	2 082.0	43.9
Other ewes	181.5	3.8
Wethers	1 180.0	24.9
Lambs and hoggets	1 254.7	26.4
Total	4 746.4	100.0

Wool

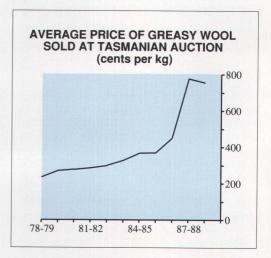
Tasmania has gained a reputation in the international wool market as a producer of top quality fine merino fleeces. Tasmanian producers have regularly held the record price for fine merino wool sold at auction. However, in terms of the overall fleece sold, the proportion of Tasmanian wool falling into the very fine category (20 microns or finer) is below the national level. This is a reflection of the different breed structure of the Tasmanian flock. A smaller proportion is merino than for the national flock.

13.14 SHORN WOOL PRODUCTION AND VALUE OF ALL WOOL, TASMANIA

Shorn wool (tonnes)	Value (a) (\$m)
19 804	58.9
20 085	64.7
20 295	73.3
20 427	83.7
20 449	108.7
19 317	162.4
	19 804 20 085 20 295 20 427 20 449

(a) Relates to agricultural establishments with estimated value of agricultural operations of \$20 000 or more; earlier years agricultural establishments with estimated value of agricultural operations of \$5000 or more.

The average price of wool sold at Tasmanian auctions in 1987-88 was more than treble the level a decade earlier. During October 1988 when 20 000 bales were sold, the average auction price reached 929 cents per kilogram. At the next main sales in December and February (when 23 300 and 32 900 bales were sold respectively) average prices had eased back to 810



cents per kilogram and then dropped further to 746 cents in February.

However, at the February wool sales a world record auction price for superfine merino wool of 300 850 cents per kilogram was established when a Japanese firm purchased a 100 kilogram bale of wool. Fujii Keori and two Italian firms, Lanaficio Titanus and Loro Piana contested the bidding for the 100 kilogram bale from Connorville, near Cressy.

The record price was more than ten times the previous record.



Mr Kenroku Fujii outbidding competition at wool sales. Photo: Mercury

THE SHEEP AND WOOL CONGRESS

Tasmania hosted the second World Sheep and Wool Congress in February-March 1989. The Congress was opened in Hobart at the Wrest Point Casino by Princess Anne on 27 February. It then moved to Launceston on 2 March for a week of activities.

The event, which attracted some 1000 industry delegates and a further 500 trade delegates from almost 20 countries, was a major international coup for the Tasmanian sheep and wool industry. Tasmanian industry representatives secured the Congress ahead of competitors following the initial Congress in Canada in 1986. Congress organisers put two years' planning into the event to ensure that all went smoothly.

Hosting the Congress focused international attention on Tasmania's important sheep industry and its internationally recognised fine merino wool production. Nations represented at the Congress included Argentina, Canada,

China, Japan, New Zealand, The Soviet Union, Sweden, United Kingdom and the United States of America. Each Australian State was represented by delegates.

The Congress not only focused upon wool production but also on sheep meat production. It provided an unique opportunity for breeders from around the world to discuss and exchange information. As well it brought together producers and buyers to establish important trade contacts.

The Congress was expected to inject around \$2 million to \$3 million into the State's economy.



Conference dinner.
Photo: Examiner

Sheep and Lambs Slaughtered

While wool is the most valuable product from the sheep industry, sheep and lambs slaughtered for meat also contribute substantially to the estimated value of agricultural production. Between \$17 million and \$19 million is added annually to the value of agriculture from slaughterings. A considerable part of the meat produced is exported overseas. In recent years about 1.1 million to 1.3 million sheep have been slaughtered providing between 19 000 and 22 000 tonnes of meat annually.

13.15 SHEEP AND LAMBS SLAUGHTERED, TASMANIA ('000)

Year ended 30 June	Sheep	Lambs
1984	418.9	756.9
1985	427.3	683.9
1986	466.6	665.7
1987	509.7	670.6
1988	630.0	656.0

13.4.2 Cattle

One of the most common agricultural activities is grazing cattle for meat. This activity is frequently undertaken as an adjunct to other major activities such as sheep farming, dairying or cropping. In the order of 70 to 75 per cent of agricultural establishments carry some cattle for meat purposes.

13.16 CATTLE NUMBERS, TASMANIA ('000)

At 31 March	Cattle for meat	Cattle for milk
1984	393.6	147.3
1985	405.1	147.5
1986 (a)	368.6	139.9
1987	395.3	138.9
1988	407.7	134.0

(a) Relates to agricultural establishments with estimated value of agricultural operations of \$20 000 or more; earlier years agricultural establishments of \$5000 or more.

Meat cattle as a side-line activity is illustrated by the fact that almost 50 per cent of establishments with meat cattle carry under 10 per cent of the meat cattle herd and less than five per cent of agricultural establishments with meat cattle carrying over 30 per cent of meat cattle.

13.17 CATTLE AND CALVES SLAUGHTERED, TASMANIA ('000)

Year ended 30 June	Cattle	Calves
1985	147.1	38.2
1986	143.2	32.2
1987	172.8	32.2
1988	181.9	35.6
1989	161.1	40.5

Dairying remains an important part of agricultural activity in Tasmania. Dairy products contribute approximately 15 per cent of the total value of agricultural production. However, over the past two to three decades the dairy industry has undergone major change.

The number of milk cattle has fallen by over 45 per cent while the number of establishments involved in the dairy industry has fallen by almost 80 per cent. While some of this decrease is due to a change in classification, most is due to a real fall in establishments in dairying.



A contraction of the United Kingdom export market was the initial catalyst in the fall. Further pressure came from increasing production costs relative to returns and the need for large scale production to remain viable.

Over the two decades the median size of the milk cattle herd has increased from 40 to almost 100.

13.18 PIGS, TASMANIA ('000)

Year	Number (a)	Slaughtered (b)
1983-84	80.2	80.2
1984-85	83.1	83.1
1985-86 (c)	42.1	84.4
1986-87	46.1	89.6
1987-88	47.6	97.5

(a) Number reported on establishments in scope of the agricultural census. (b) All pigs slaughtered at abattoirs. (c) Relates to agricultural establishments with estimated value of agricultural operations of \$20 000 or more; earlier years agricultural establishments of \$2500.

Most of the dairy herd is located in the northwest of the State. The local government area of Circular Head has just on 30 per cent of the State's dairy cattle.

13.4.3 Other Livestock

Principal other livestock farming activities include pig farming, poultry and on a few establishments goats and deer.

Pig farming has undergone similar changes to other farming activitie - increasingly specialised and large scale operation.

DEER FARMING VIABLE IN TASMANIA

Deer have been in Tasmania almost since the first days of white settlement, but it's only in recent times they have been regarded as a viable agricultural industry.

Introduced to the State in 1829 by Captain Anthony Fenn Kemp and Captain Dumaresq, the first imports were from India. However, they were unable to acclimatise to local conditions and appeared to die out (some suggestions were that a few of the Indian Chitals did eventually interbreed with fallow deer).

The fallow deer - the species being farmed in Tasmania - were brought in by the Gatenby and Bisdee families in 1836. Well suited to the Tasmanian environment, the deer have gone on to number about 20 000 and are dispersed through a wide area of the State.

Although the feral deer population grew in the State's mainly pastoral districts from the middle part of last century on, it wasn't till 1978 that it was decided to put the farming of them into practice. In that year Mr O'Connor, of Connorville, Cressy, submitted an application to trap wild deer on his property and establish a deer farm.

A draft policy on deer farming was drawn up among various government, agricultural, hunting and semi-government organisations, on the farming of the animals, and this was presented to the State Government in 1979. It was subsequently endorsed, allowing for a small number of farms (five to six) to be set up and 1200 wild deer were caught to provide foundation stock. There are now about 49



Deer farming.

Photo: Mercury

licensed deer farms in Tasmania which carry an average herd of 120 does.

Deer farmers are achieving fawning rates of about 90 per cent. The doe fawns are retained for breeding and the buck fawns go to the venison trade.

The venison market continues to grow at a steady rate and Tasmanian deer meat is gradually replacing the imported product on restaurant tables.

Female fawns are still sought within the State as farms upgrade and improve herd sizes and new breeders come into the industry.

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Chapter 14

MINING

Mining in Tasmania began on the Tasman Peninsula with 61 tonnes of coal produced by convicts from Port Arthur. The mine operated for 10 years before it was closed down when better quality coal was discovered elsewhere. In 1849 gold was found near Lefroy and three years later at Mangana near Fingal.

Tin oxide was first discovered near Mt Bischoff in 1871, silver-lead ore in the Zeehan-Dundas area in 1882, and the discovery of the Iron Blow ore outcrop in 1883 led to the opening of the Mt Lyell copper field. These and later discoveries led to the establishment of Tasmania's mining industry which has had a significant impact on the State's development and economy.

Recently, world prices for mineral producers have been generally depressed and unstable. However, there have been a number of noteable developments which have occurred recently in Tasmanian's mining industry.

Mining history in Tasmania was made on 10 April 1989 with the official opening of Aberfoyle's mine at Hellyer. The Hellyer operation employs 190 people and is expected to process one million tonnes of zinc-lead-silver ore per year. Its annual output will include 100 000 tonnes of bulk lead-zinc concentrate, 170 000 tonnes of zinc concentrate, 45 000 tonnes of lead concentrate and 10 000 tonnes of copper-silver concentrate.

Most of the production is destined for mainland Australia and overseas refineries except for a large proportion of zinc concentrate which will be processed at the Pasminco Metals-E Z company's Risdon plant.



Stockpiling at Hellyer.

Photo: Mercury

By the end of 1989 Spectrum Resources had almost finished developing an underground tin mine at the former open cut Anchor Mine, 22 kilometres north-west of St Helens.

This revitalised mine represents the most significant mineral development in north-eastern Tasmania in recent years. It is expected to produce 400 tonnes of high grade tin concentrate from 100 000 tonnes of ore, per year.

Development of the Renison Goldfields Henty prospect has continued. A decline to acquire bulk ore samples was extended by 555 metres and 6800 metres of exploratory drilling was completed during the year.

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In October 1988 Savage River Mines was advised by its Japanese customers that they did not intend to renew their sales contracts for iron ore pellets. The company decided to wind-down operations over the next two years.

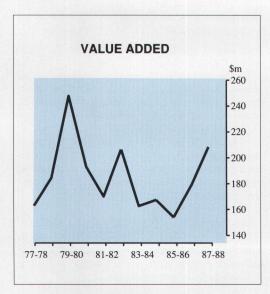
A feasibility study has since been undertaken to find out if the company could continue operating after September 1990 by reducing its scale of production.

Savage River Mines is actively seeking alternative markets. It is also costing the proposals to vary production levels. These actions could prolong the mine's life by approximately six years.

Renison, the largest Australian tin mine, reported a record production of 6940 tonnes of tin concentrate in 1988-89. However, tin prices remained depressed throughout most of the year and reduced the company's profitability.

Mt Lyell continued development work at its copper mine to extend the mine's life until 1994. Improvements in the price of copper assisted the company to a profitable year.

The Pasminco Metals-E Z company's Rosebery mine reported a lower than planned level of underground production. However, this was offset by an increase in the grade of ore extracted. The company continued an intensive mineral exploration program to locate new ore bodies to extend the life of its mines.



14.1 MINERAL PRODUCTION

The turnover of the mining industry in 1987-88 was \$457.4 million, two per cent more than in 1986-87. In the same period the industry's contribution to the Tasmanian economy (value added) increased by 17 per cent to \$208 million in 1987-88.

Employment in the mining industry continued to decrease in 1987-88. By the end of June 1988 there were 2771 persons employed, 4 per cent less than at June 1987. However, the wages and salaries paid in 1987-88 was \$102 million, 9 per cent more than in 1986-87.

14.1 SUMMARY OF OPERATIONS BY INDUSTRY SUBDIVISION, TASMANIA, 1987-88

Description	Employ- ment at 30 June (no.)	Wages and salaries (\$m)	Turn- over (\$m)
Metallic minerals Coal	2 496	96.0	420.2
Construction materials Other non-	181	3.8	26.1
metallic minerals	94	2.2	11.1
Total -			
1987-88	2 771	102.0	457.4
1986-87	2 888	93.5	450.4
1985-86	3 098	92.3	389.5

14.1.1 Metallic Minerals

Aberfoyle Ltd commenced full scale production of lead, zinc, and silver concentrates at Hellyer in 1987-88.

There were significant increases in production of iron ore pellets by Savage River Mines and of lead-copper concentrate from the Rosebery mine.

14. 2 PRODUCTION		

Mineral	Unit	1986-87	1987-88
Copper concentrate	'000 tonnes	92	84
Gold bullion	kg	431	145
Iron ore pellets	'000 tonnes	1 840	2 260
Iron oxide	'000 tonnes	n.p.	28
Lead concentrate	'000 tonnes	33	31
Lead-copper concentrate	'000 tonnes	29	33
Lead-zinc concentrate	'000 tonnes		53
Molybdenum concentrate	tonnes	25	19
Scheelite concentrate	tonnes	1 738	2 000
Tin	'000 tonnes	14	13
Zinc	'000 tonnes	153	152

14.1.2 Fuel Minerals (Coal)

Coal is the only fuel mineral mined in Tasmania. There are known deposits of coal throughout much of Tasmania but the most important are those located in the north-east in the Fingal and Mt Nicholas areas.

Most Tasmanian coal is produced from two collieries owned and operated by the Cornwall Coal Co. NL. These are the Duncan Colliery at Fingal and the Blackwood Colliery near St Marys. Both these mines produce coal by underground mining methods.

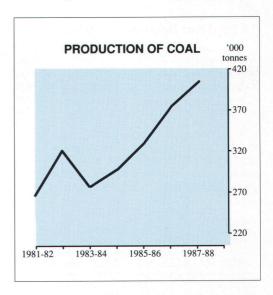
14.3 PRODUCTION OF COAL, TASMANIA

Туре	Unit	1986-87	1987-88
Raw coal	'000 tonnes	623	581
Washed coal	'000 tonnes	375	405

A small quantity of coal is produced at the Merrywood Colliery, near Royal George, where pillars left by a former underground operation are now being extracted by open-cut mining.

The Tasmanian Coal Company has started initial development towards the opening of an open cut mine near Dublin Town on coal reserves defined several years ago by the Shell Company of Australia Ltd.

Potentially mineable reserves of both black and brown coal have been delineated in other parts of the State following an intensive exploration phase initiated by the possibility of a coal-fired power station several years ago.



All of the coal mined in Tasmania is used by local manufacturers requiring steam generation, such as the paper mills, the cement works and fish canneries. Tasmanian coal is quite satisfactory as a boiler fuel, but is unsuitable for export because of its relatively high ash content.

14.1.3 Construction Materials

The production of construction materials is basic to all building activity, and consequently affects most parts of the economy. Whilst

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buildings, roads and most services depend on the availability of construction materials, control of costs depends on their being produced locally.

14.4 PRODUCTION OF CONSTRUCTION MATERIALS (a), TASMANIA, ('000 tonnes)

Mineral	1986-87	1987-88
Dimension stone	2	2
Crushed and broken stone	2 372	2 361
Gravel (b)	919	314
Sand	565	713
Other road material	46	(b) 745

(a) Excludes quantities quarried by Government or semi-government authorities (e.g., HEC, Department of Construction, etc.) but includes quantities quarried by local government authorities for road material. (b) Mainly decomposed rock for road material (reclassified as other road material from 1987-88).

14.1.4 Other Non-metallic Minerals

The quarrying of limestone for cement production is the earliest recorded mining activity for non-metallic minerals other than coal in Tasmania, and is currently at a near record level.

Silica occurs in a number of locations in Tasmania, both as a high quality quartzite and as deposits of silica sand. Large quantities of high quality silica are sought for production of silicon metal by Pioneer Silicon at Electrona.

14.5 PRODUCTION OF OTHER NON-METALLIC MINERALS, TASMANIA

Mineral	Unit	1986-87	1987-88
Clays and shale-			
Brick	'000 tonnes	160	87
Other	'000 tonnes	73	73
Dolomite	'000 tonnes	11	11
Limestone (a)	'000 tonnes	752	826
Peat moss	'000 tonnes		1
Pebbles	'000 tonnes	1	_
Silica	'000 tonnes	45	78

 ⁽a) Excludes quantities used directly as a building or road material.

14.1.5 Value of Production

The value of minerals produced from Tasmanian mines in 1987-88 was \$382.6 million, 16 per cent more than in 1986-87.

The largest contribution to total production came from production of metallic minerals and coal (89 per cent).

14.6 VALUE OF MINERALS PRODUCED, TASMANIA, (\$m)

Mineral	1986-87	1987-88
Metallic minerals and coal	295.4	339.4
Construction materials	24.9	27.6
Other non-metallic minerals	8.8	15.6
Total	329.1	382.6

14.2 EXPLORATION

14.2.1 Mineral Exploration

The continuous diminution of ore bodies inherent in mining activity means that ongoing exploration is necessary, not only to establish new mines but also to maintain a skilled labour force and to extend the productive life of capital equipment. Recent events, including the opening of the Hellyer mine with its forecast 20 year life on the one hand and the closure of the Cleveland and Hercules mines on the other, illustrate the dynamism of the industry.

Although the more mineralised regions of the State, such as the Queenstown-Zeehan-Rosebery area in western Tasmania, have been extensively explored on the surface, much of Tasmania remains relatively unexplored and the search for 'blind' mineral deposits is still in its infancy.

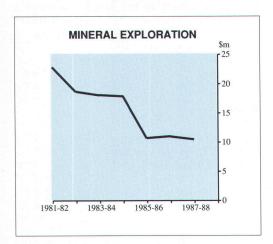
Mineral exploration today is aimed primarily at discovering 'blind' ore bodies that are concealed either by superficial overburden or overlying rocks that have not been removed by erosion.

Modern mineral exploration programs demand a combination of many geological, geophysical and geochemical techniques and applications and may take five, 10 or even 15 years to come to fruition. Only a very small proportion of mineral exploration programs are successful.

Expenditure on private mineral exploration peaked in 1981-82. Since that time exploration funding in the State has declined substantially.

Major exploration interests are centred on four main areas:

- The Mt Read Volcanics region from Elliott Bay to Que River, where there are excellent prospects for more zinc-leadcopper-gold-silver deposits;
- The Mt Bischoff Savage River Pieman River - Zeehan region, where prospects are high for tin, tungsten, lead, zinc, silver, gold, nickel, osmiridium, iron, copper, asbestos and chromium;
- The Hampshire Sheffield region, where the attractions are tungsten, tin, zinc, lead, copper, silver, gold, iron and molybdenum and
- North-eastern Tasmania, bounded by Scamander - Avoca - Lefroy, which has long been prospected for gold, tin, tungsten, silver and lead.



14.2.2 Petroleum Exploration

Offshore

There was a very low level of exploration for petroleum in 1988-89. There were no new seismic surveys undertaken nor wells drilled and no new seismic surveys undertaken in this period.

During the year a marine geochemical 'sniffer' survey was conducted by Amoco and partners in the Bass Basin.

In April 1989 four Tasmanian offshore areas (three in the Bass Basin and one in the Sorell Basin) were made available for exploration tender.

Onshore

Conga Oil continued their exploration activities in Tasmania during 1988-89.

Chinese Tin Miners

In 1874, prior to the discovery of tin, the north-east of Tasmania was a sparsely populated region with only approximately 7000 people engaged mainly in agriculture. All the major tin deposits were discovered in the north-east between 1874-1877. Most of the early mines were small co-operative ventures employing the pick, shovel, barrow and sluice box method. This type of mining suited the Chinese as it required very little capital which enabled them to compete well with Europeans. Mine owners adopted the tribute system which involved letting their claims to miners who were paid a fixed price for the tin raised. The mines were let to the lowest bidder and the Chinese as well as being more co-operative were willing to take a lower price than European miners. By 1878 the Chinese were present in all major tin mining centres of the north-east with the exception of Derby, the richest tin mine in the region. In 1879 the Chinese presence on the tin fields was further consolidated when many European miners left the diggings for the more lucrative gold fields, the Chinese miners remained taking up ground on tribute and buying tin leases from the Europeans who wanted to leave. The price of tin began to fall in 1879 then increased again giving the Chinese good profits which enabled them to take up their own claims or to work for Chinese contributors or lease-holders. By 1882 there were more Chinese miners than European miners in all but two fields in the Ringarooma district. A feature of Chinese life was the joss house, a house of worship and many were built in the large Chinese communities, in the region. As tin mining dwindled so did the Chinese population. The last joss house, at Welborough was brought to the Oueen Victoria Museum in Launceston in 1934 to save it from vandalism and to preserve an important part of Tasmania's mining history.

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14.3 CREATION OF A MINE -THE HELLYER PROJECT

(The following section was prepared by Aberfoyle Ltd.)

The west coast of Tasmania is one of Australia's richest mining regions and the Hellyer project is helping to maintain that tradition. For more than a century, the harsh mountainous west coast of Tasmania has yielded a wealth of tin, gold, silver, lead, zinc, copper and iron. It is a tradition that dates back to 1871 when James 'The Philosopher' Smith discovered the world's richest tin deposit at Mt Bischoff. From this followed the discovery of some of the nation's best known orebodies - Mt Lyell, Renison Bell, Zeehan and Rosebery.

The same region of Tasmania also gave birth to Aberfoyle's Cleveland tin mine, Que River and Hellyer zinc-lead-silver mines.

The Que River - Hellyer area was first prospected for minerals in 1928 by Thomas McDonald who discovered the ore body at Rosebery.

Ten years later, the Tasmanian Government Geological Survey recommended drilling in the Que River - Hellyer area, but this was not done. Some limited exploration by successive property holders was undertaken over the following 30 years but the area was abandoned in 1968.

A year later, Aberfoyle Limited and Paringa Mining and Exploration Company Limited acquired a 190 sq. km exploration licence covering the Que River - Hellyer area which later became known as the Mackintosh Joint Venture.

Reconnaissance geological traverses and stream sediment sampling led to a drilling program which, in 1974, intersected zinc, lead and silver mineralisation. This marked the discovery of the Que River ore body. Underground exploration at Que River began in 1975 and production commenced in 1981.

Continued exploration of the region using a combination of geophysical and geochemical techniques and detailed electromagnetic surveys eventually identified a drilling target three kilometres from Que River which led to the discovery of the Hellyer ore body in 1983.

The orebody is 100 metres below the surface at its southern end, plunging to a depth of 500 metres at its northern end. It is a single irregular pod of ore extending 850 metres north-south and 150 metres east-west. Its average vertical thickness is 40 metres.

The large tonnage and high grade is exceptional for this type of mineral deposit. It is estimated at 16 million tonnes, containing 13 per cent zinc, 7 per cent lead, 0.5 per cent copper and 156 grams of silver per tonne. This is sufficient to maintain production through to early next century at a rate of one million tonnes a year.

Development

Like Que River, Hellyer is part of the highly mineralised Mt Read volcanic belt which runs down Western Tasmania. It is ranked as a world-class ore body.

The discovery of Hellyer in 1983 was followed by an intensive three-year program of exploratory drilling and development, and metallurgical testwork.



Underground drilling at Hellyer. Photo: Aberfoyle Ltd.

The first tasks were to continue drilling to outline the size and metals content of the orebody and, by laboratory testwork on the drill cores, to gain an early indication of the technology likely to be needed for successful mining and processing in order to produce marketable products. This work continued throughout 1984. By the end of the year more than 21 000 metres of diamond drilling had been accomplished and a broad program of metallurgical testing was showing results.

The Hellyer orebody was very large and promised high grades of zinc, lead and silver. Testing of the core indicated good rock strengths which would permit safe and low cost mining methods to be used.

However, when laboratory metallurgical testwork commenced the complexity of the ore revealed itself. It was a very fine grained and intimately interwoven mixture of the various minerals which contained the metals. To separate them and economically produce marketable concentrates was not going to be easy. Work continued at Aberfoyle's laboratories at Burnie in Tasmania, at the CSIRO's Institute of Energy and Earth Resources and at other Australian and overseas laboratories.



Cyclosizing samples at the Hellyer concentrator. Photo: Aberfoyle Ltd.

By late 1984, much progress had been made and the next significant step was taken. It was decided to drive a 1.1 km adit, or tunnel, to reach the orebody some 300 metres below the surface and then to drive tunnels within the orebody for further exploration and to provide ore for pilot plant trials.

The adit was driven from the Southwell River valley and reached the ore zone in April 1986. While it was being driven, Aberfoyle's tin operations at the Cleveland mine, 50 kilometres away, were closed down and the Cleveland mill was converted to a large-scale pilot plant for Hellyer ore.

As it would take two years to design and construct a mill and to develop the mine for large-scale production Aberfoyle decided to expand the pilot plant immediately to full-scale commercial production. Whilst this generated revenue, it also provided valuable experience in the start-up of a large operation.

Construction of the concentrator at Hellyer was begun in January 1988. Associated facilities constructed during 1988 included a tailings storage, water and power supplies, roads from the mine to the mill and a new 12 kilometre rail spur of the Emu Bay rail line which now carries the concentrates to the port of Burnie for shipment.

Much of Hellyer's initial mine equipment fleet comprised items transferred from the company's other mines. Modern hydraulic rock drilling equipment, high capacity diesel load-haul-dump units and 50 tonne capacity diesel trucks have been added to achieve high productivity and low mining costs.

Operating The Mine

The orebody is divided up into a series of stopes from which the ore will be mined initially. The stopes are separated by pillars which will be extracted after mining of the adjacent stopes had been completed. Stopes are usually mined progressively until exhausted and then the pillars are mass blasted in a single blast into the open stope. At any one time, ore is extracted from a number of different stopes which permits it to be blended, ensuring continuity in grade and quality.

The ore is trucked along the adit and then to the treatment plant. The ore treatment plant, located on the plateau above the orebody, operates continuously producing zinc, lead, bulk lead-zinc and copper-silver concentrates.



A Hellyer mining trainee makes the work face safe. Photo: Aberfoyle Ltd.

The production process requires very fine grinding followed by four stages of flotation. This is achieved with high capacity equipment including large but conventional primary and

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secondary grinding mills, Tower Mills for regrinding and large automated pressure filters.

The concentrates are transported from Hellyer to the coastal port of Burnie by the Emu Bay Railway.

A large proportion of the zinc concentrate produced at Hellyer is sold to the Risdon smelter near Hobart. The remaining concentrates are sold to other smelters in Australia, Europe, Japan and South Korea.

Mining normally takes place five days a week around the clock in three shifts with milling operating on a continuous seven days a week basis.

Environmental Concerns

Aberfoyle and the Tasmanian Department of the Environment have worked closely to ensure that as little as possible of the natural environment will be disturbed and that the impact on the surrounding environment will be acceptable.

In keeping with these aims all mining and construction work has been carried out to plans which have specified which areas can be used and the rehabilitation and revegetation which must follow.

The mill tailings, the main waste product, are impounded behind a dam. Water flowing from the tailings dam is filtered over specially constructed wetlands before joining the natural river system.

These wetlands make use of the ability of certain species of grasses and mosses to absorb the minute quantities of impurities in the water so that when the water joins the natural river system it meets the required environmental standards.

Summary

Hellyer represents a major new development for the Australian mining industry and is also the largest project undertaken by Aberfoyle in its 66-year history.

From one million tonnes of ore each year the mine produces an average of 100 000 tonnes of

bulk lead/zinc concentrate, 170 000 tonnes of zinc concentrate, 45 000 tonnes of lead concentrate, and 10 000 tonnes of copper/silver concentrate.

The mine provides direct employment for 190 people. Many additional jobs have also been created in other enterprises providing goods and services to the Hellyer project.

The development of Hellyer from a drill hole to a major mining and treatment operation was achieved in less than six years and involved a total investment by Aberfoyle of \$157 million.

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Chapter 15

FISHING

The Tasmanian fishing industry has been diversifying rapidly over the past 20 years. The advent of the aquaculture industry, particularly for Atlantic salmon and sea trout, has opened up new export markets. The 1980s also saw several major Tasmanian fisheries (jack mackerel, scallops and orange roughy) subjected to dramatic changes in their stocking levels which could affect their long-term viability as a fishing resource.

The estimated value of fish landed in Tasmania in 1987-88 was \$91.8 million. (This figure excludes the value of Atlantic salmon, trout and oyster farming.) This value of production ranks with other major primary industry sectors: for the same period the gross value of crops was \$188.2 million and livestock slaughtering was \$112.6 million.

The bulk of the value of Tasmania's fish catch in 1987-88 came from molluscan shellfish and crustaceans, with abalone (50.4 per cent of



Opening of the scallop season.

Photo: Mercury

15.1 EMPLOYMENT IN THE FISHING INDUSTRY, JANUARY 1990

ASIC	Description	No. of establish- ments	No. of persons employed
0431	Rock lobster fishing	17	49
0432	Prawn fishing	1/	49
0433	Ocean and coastal		
	fishing	444	1 465
0434	Inland fishing/fish farming	63	297
2174	Fish and seafood processing	27	465
	Total	551	2 276

value) and rock lobster (31.8 per cent) being the major contributors.

In January 1990 there were 551 establishments in the fishing and fish processing industries. The majority of these (81 per cent) were involved in ocean and coastal fishing. Other major areas were inland fishing and fish farming (10.5 per cent) and fish and seafood processing (6.2 per cent). Sixty-six per cent of establishments employed between one and four persons. The majority of these 'establishments' would have been small fishing vessels.

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15.1 FISH SPECIES

15.1.1 Southern Rock Lobster

Three species of marine crayfish are of commercial importance in Australian waters. Of these, only the southern rock lobster (Jasus novaehollandiae) is caught commercially in Tasmanian waters.

Southern rock lobster has been a traditional mainstay of Tasmania's fishery. Landed weight has been, for recent years, around 1.5 million to 1.8 million tonnes. In terms of value of catch it is second only to abalone.

Crayfish are processed live, most being exported either cooked or chilled.

15.2 SOUTHERN ROCK LOBSTER

		Value	
Year	Landed weight (tonnes)	\$m	Proportion of total(a) (%)
1983-84	1 805.1	12.6	33.9
1984-85	1 916.5	18.7	41.2
1985-86	1 456.0	16.2	29.1
1986-87	1 582.0	21.1	24.7
1987-88	1 803.3	29.2	31.8

⁽a) Proportion of value of general sea fisheries; excludes value of trout, salmon and oyster farming.

The rock lobsters are caught in baited traps which are usually lifted, rebaited and reset each morning. The catching of rock lobster is controlled by the Division of Sea Fisheries, Department of Primary Industry. (The Division was until July 1989 the Department of Sea Fisheries - DOSF). The Division issues commercial and amateur cray pot licences. The number of cray pots allocated to a commercial licensee is determined by the length of the fishing vessel. In June 1988 there were 344 commercial cray pot entitlements and 7195 amateur licences.

Fishermen's catch returns for 1987-88 showed that the rock lobster catch had increased by 228 tonnes to a total of 1803 tonnes with an estimated value of \$29.2 million, \$7.3 million higher than the previous maximum value for the fishery. This increase in value is due mainly to increases in prices for the rock lobsters.

15.3 TASMANIAN CATCH OF PRINCIPAL FISH SPECIES, (a) 1987-88

	Landed weight	Value
Species	(tonnes)	(\$'000)
Inshore fin fish -		
Australian salmon	945.5	731
Sand flathead	118.5	106
Conger eel	70.7	229
Greenback flounder	42.9	134
Total (b)	1 311.5	1 348
- Total (0)	1 311.3	1 348
Near shore demersal fin fish -		
Gummy shark	794.9	3 434
School shark	648.3	2 750
Perch morwong	240.2	432
Saw shark	183.9	
Unspecified shark		331
Gemfish	207.6	565
	99.1	303
Bastard trumpeter	41.9	115
Spotted trevalla	33.6	101
Striped trumpeter	33.4	113
Total (b)	2 491.1	8 441
	2 171.1	
Near shore pelagic fin fish -		
Jack mackerel	37 681.9	2 261
Red bait	1 278.0	126
Blue mackerel	1 182.9	73
Trevally	201.1	242
Total (b)	40 456.5	2 854
Offshore fin fish -		
Blue grenadier	596.8	846
Orange roughy	322.3	618
Deep sea trevalla	143.0	625
Warehou	122.4	267
Total (b)	12046	2 20 4
Total (b)	1 204.6	2 394
Crustaceans-		
Southern rock lobster	1 902 2	20.105
Southern fock lobster	1 803.3	29 185
Total (b)	1 804.6	29 189
Molluscs-		
Abalone	3 213.9	46 235
Commercial scallops		
(meat weight)	78.3	943
Total (b)	3 409.5	47 353
Sea urchins		
(gonad weight)	10.3	130
Total	50 797.1	91 796
(a) I anded weights are a mixture of	gutted beaded gut	band and

⁽a) Landed weights are a mixture of gutted, headed, gutted and gilled, etc.
(b) Includes species not separately specified.

Research into recruitment and growth rates for the rock lobster began in 1987. The data will be used to develop models which will enable better management of rock lobster stocks. Catch sampling data provides information on catch rates, exploitation rates, size distributions, spawning stocks, and abundance of recruitment and pre-recruitment stocks.

Preliminary results from the research have shown that rock lobsters in northern Tasmanian waters have a relatively fast growth rate. Over 50 per cent of them reach the legal catch size before they reproduce and therefore this fishery receives relatively little protection from the imposition of the current minimum size limit. Rock lobsters in eastern, southern and south-western waters, however, receive good protection from the limit. Further research is needed into larval recruitment, and mortality rates for undersize crayfish which are caught and then released.

Regulations were amended in 1989 to alter the rock lobster fishing season. Taking of female crayfish would be prohibited between 1 May and 30 October, and the season for taking of male crayfish would be closed between 1 May and 30 June and again between 1 September and 31 October. These closures would apply to all Tasmanian waters and would be reviewed after a two-year period.

15.1.2 Scallops

The major species of scallop dredged commercially in Tasmanian waters is the commercial scallop *Pecten fumata*. It is fished in southern Australia from Western Australia to southern Queensland. The doughboy scallop, also fairly abundant in Tasmanian waters, is not harvested commercially as it does not grow to the minimum legal catch size.

In 1987-88 the total scallop catch in Tasmania was 489 tonnes (live weight), valued at about \$1.0 million. This was the lowest catch since 1977-78. Of the 175 vessels licensed to catch scallops, only 75 landed scallops in 1987-88.

The 1987-88 scallop season opened on 14 June 1987 and by July the last known established adult scallop beds in the northern Tasmanian fishery had been fished out. A minimum size limit of eight centimetres (widest diameter) was introduced in July after large quantities of juvenile scallops were landed.

The Tasmanian zone of the Bass Strait scallop fishery was closed prematurely on 3 September

1987. The closure was intended to allow any remaining juvenile beds to develop to the adult spawning stage and replace those adults which had been taken by continued commercial fishing. The closure of the fishery for the 1988-89 season was recommended by the DOSF.

Annual scallop surveys in the Tasmanian zone began in 1987. The purpose of the surveys is to locate and map the distribution of commercial scallop beds, estimate scallop abundance and find those areas where significant numbers of juvenile scallops are settling.



Scallop splitting.

Photo: Mercury

For the survey in 1989 the Tasmanian zone was split into six regions, each of which was surveyed by a local commercial fisherman who was familiar with the area. The survey showed limited settlement of juvenile scallops from the 1988-89 spawnings, mainly in the east and north-east. Commercial beds in the Tasmanian zone are very limited and it is likely that the zone will remain closed to commercial fishing until adult populations have increased to a density which can provide a large spawning population for scallop recruitment.

Scallop Enhancement Research Program (SERP)

In August 1987 the Japanese Overseas Fisheries Cooperation Foundation signed an agreement with the Tasmanian Government which would involve the sharing of Japanese expertise in scallop culture and the funding of the Scallop Enhancement Research Program (SERP) for \$2 million over 3 years. The Tasmanian Government, through the DOSF, would contribute an additional \$1 million.

The project involved re-seeding the seabed with scallop spat collected in the wild and in

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culture. The site chosen for the project was the Great Oyster Bay/Mercury Passage area between Marion Bay and Coles Bay. The original aim of the project, to collect half-a-million spat in 1987-88 (and 5 million in 1988-89 and 10 million in 1989-90) was unsuccessful when only a small number were collected in the 1987-88 spawning period. These low levels could be attributed to very low broodstock numbers and unseasonally high winter water temperatures which would upset the normal spawning cycle.

A major revision of the project plan, using hatchery produced spat, was introduced. As well, research into a number of spawning indicators, such as water temperature and gonad indices, was undertaken. Studies were begun into predation and growth rates of spat in hanging culture.

In 1988-89, close monitoring of the reproductive cycle and calendar of spawning adults will be necessary to ensure optimum collection of spat in collection bags. The estimated 500 000 spat collected in this way will be supplemented by 4.2 million hatchery spat. The spat removed from collection bags are reared in small net baskets (pearl nets) until they are about three centimetres in shell length, then they are either re-seeded onto the sea bed or placed in larger hanging baskets (lantern cages) up to two metres long and half-a-metre wide.

In June 1989 the DOSF began re-seeding the Great Oyster Bay area with one million juvenile scallops measuring four to five centimetres in diameter. These juveniles had been raised in hanging culture cages and will be left to develop on the seabed for two and a half years, enabling them to spawn three times before any attempt is made to harvest them. One hundred thousand spat collecting bags were placed in waters near Triabunna on the east coast. Three million spat were collected and grown in cages in 1989 and in 1990 five million spat are planned for release onto the re-seeding areas.

Alternative methods of harvesting are also needed in order to reduce the damage to scallop beds. Two versions of a modified Japanese Keta-ami dredge and a Siebenhausen scallop net are being tested as possible replacements for the traditional toothed mud dredge.

15.1.3 Abalone

Seven species of abalone occur on the southern coast of Australia. Three species, the greenlip abalone (Haliotis laevigata), blacklip

abalone (*H. ruber*) and Roe's abalone (*H. roei*) are harvested commercially, with the first two species forming the basis of the Tasmanian industry. Tasmania produces the greatest abalone yield of all the Australian states, supplying half the nation's abalone. The bulk of the catch is exported to Japan.

Abalone contributes the most to the value of Tasmanian fisheries. Although in recent years the landed catch has shown fairly consistent decline, high unit values have pushed up the value of the catch.

15.4 ABALONE

Year	Landed weight (tonnes)	Value	
		(\$m)	Proportion of total (a) (%)
1983-84	4 769.2	15.2	41.5
1984-85	4 215.1	19.6	43.2
1985-86	3 558.0	30.8	55.2
1986-87	3 245.0	44.7	52.4
1987-88	3 213.9	46.2	50.4

(a) Proportion of value of general sea fisheries; excludes value of trout, salmon and oyster farming.

The DOSF undertook research in 1987-88 to determine population profiles for the blacklip abalone. The species shows different growth rates in different areas of the State, with maximum size and growth rates increasing from northern to southern waters. The species tends to breed at a given age rather than at a given size. The fastest growing specimens, which occur in the south west, reach breeding maturity at a size which is larger than the legal catch-size limit and, like rock lobster in the north of the State, can reach the legal size limit before they are able to reproduce. Abalone in the north of the State are slower growing and, while capable of reproducing, may never reach the legal size limit.

While there are no precise data on the state of current abalone stocks, their apparent decline in numbers prompted the State government, as a conservation measure, to promote a 30 per cent reduction in the 1989 abalone quota. In return for compliance with the quota cut, the government agreed to the introduction of a month-long exploratory harvest of stocks of 'stunted' black-

lip abalone on the north coast. These slow growing stocks, which rarely reach the legal size limit of 132 mm, had been safe from commercial harvesting.

Each diver involved in the exploratory harvest would be allowed to take 2.4 tonnes of these abalone in addition to the individual Tasmanian quota of 16.8 tonnes. A minimum size limit of 110 mm for these 'stunted' abalone was set for the one-month trial. A total of 207 tonnes was harvested in April 1989. In order to provide further protection for the abalone fishery, a minimum size limit of 140 mm is planned for introduction on the west coast for the 1989-90 season.



An abalone diver inspects his catch. Photo: Mercury

15.1.4 Oysters

In 1988 Tasmanian oyster farmers reported their production as 2.6 million dozen with an estimated value of \$9 million. Production in 1989 and 1990 was expected to increase to 4.75 million dozen with an estimated value of \$16.6 million.

The most common oyster cultivated in Tasmania is the Pacific oyster (*Crassostrea gigas*) which is related to the Sydney rock oyster. Cultivation and export of the native Tasmanian flat oyster (*Ostrea angasi*), also known as the Port Lincoln oyster, has been undertaken in recent years. The Tasmanian oyster is similar to the European flat oyster (*O. edulis*) which is considered a gourmet delicacy and the Tasmanian species is expected to bring good prices on the export market. This should provide some compensation for the fact that the Tasmanian oyster

is more expensive to produce than the Pacific oyster: it takes twice as long to grow as the Pacific oyster which can grow to marketable size in 12 to 18 months.

Cultivated oysters are generally grown from commercially produced spawn. The majority of oyster farmers in the State are supplied by Shell-fish Culture Pty Ltd of Bicheno which produces between 100 and 200 million spawn each setting. The company also supplies interstate and overseas markets.

In June 1988 there were 79 farms licensed to cultivate Pacific oysters, 31 to cultivate flat oysters and 20 licensed to cultivate mussels.

Since 1983, live mature oysters have been exported to such Asian countries as Hong Kong, Singapore, Malaysia and Japan. In June and July 1989 frozen oysters shipments to the USA began. This follows the signing of a memorandum of understanding with the United States Food and Drug Administration (USFDA) in November 1986 which allowed for the export of frozen Tasmanian oysters and molluscan shell-fish to the American market. Frozen oysters are sent by sea and live oysters are exported by air, utilising international flights from Hobart Airport.

In 1988 the memorandum of understanding was temporarily suspended following deficiencies in the Tasmanian Shellfish Sanitation Program brought about by staffing problems at the DOSF. This prevented export of shellfish from Tasmania to the USA.

In January 1990 the prolonged effect of the national pilots' dispute was claimed to be a contributing factor which led to the closure of the State's major oyster processing company, Oystas Pty Ltd. The company, which usually processed 3.6 million oysters a year, experienced a 90 per cent drop in sales during the dispute. The company relied on air freight to transport its processed oysters to interstate and overseas markets. Oystas was the only processor in Australia licensed by the USFDA to process oysters for sale to the USA.

Shellfish Sanitation Program

Oysters are filter feeders and, as a consequence of their indiscriminate feeding habits, are prone to contamination by water-borne pollutants and toxic organisms such as faecal coliforms and biotoxins. They are particularly susceptible to contamination after periods of rain

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when chemicals and bacteria are flushed into the marine environment from septic tanks, sewage treatment works and areas of agricultural activity.

All commercially harvested oysters in Tasmania come from leases where monitoring for microbiological contamination is undertaken on a regular basis by Department of Primary Industry (DPI) officers. The level of monitoring in an area is increased following periods of heavy or continuous rainfall, with all leases closed for harvesting until on-site and laboratory tests have cleared them of any contamination.

Any contamination problems that are detected in oysters which have been harvested can be traced back to their original lease via a tag system that operates for all harvested oysters. The lease where the contamination occurred can be shut down without having to shut down other leases in the industry.

Mussels, oysters and scallops are all susceptible to biotoxins, potentially lethal chemicals produced by certain species of marine algae. These toxins can accumulate in the tissues of the shellfish. The Sanitation Program regularly monitors shellfish for the presence of these toxins, particularly in the Huon and D'Entrecasteaux Channel areas.

15.1.5 Sea Urchins

In 1987 the DOSF started a research and monitoring program for the developing sea urchin industry. The major species harvested is *Heliocidaris erythrogramma*, the most commonly found species on the Australian coast.

Total urchin catch in 1987-88 was 285 tonnes valued at \$130 000 to the commercial diver and \$825 000 to the export market.

The size, colour and texture of the urchin roe (gonad), a major soft tissue component of the animal, determines its quality and price. The roe can contribute between four and five per cent by weight of the landed catch. In 1988 top quality roe was selling for up to \$200 a kilogram in Japan. The processed roe are air freighted as they must arrive at the Japanese market within 48 hours of being harvested from the sea.

The DOSF is conducting laboratory and field research into the effects of alternative feeding regimes and population densities on roe quality.

15.1.6 Jack Mackerel

The jack mackerel, *Trachurus declivis*, is a member of the trevally family and a close relative of the yellow-tail. Adults reach a length of half a metre and are most common in the open sea. The jack mackerel fishery has developed rapidly since its beginnings in 1985 and is now the single largest fishery (by tonnage) in Australia with landings of 42 000 tonnes in 1986-87 and 38 000 tonnes in 1987-88. The catches are limited to Tasmanian waters with most fish caught off the east coast. The mackerel are an important feed source for the Tasmanian salmon farming industry and as bait for rock lobster fishing.

Between October and May the mackerel congregate in large schools near Maria Island off Tasmania's east coast. Early in the fishing season the schools are located sub-surface and fishing vessels use sonar to detect them. As the season progresses the schools appear more often on the surface and are located by spotter aircraft. The schooling behaviour of the fish makes them particularly suitable for capture by the purse seine method.

Seven large purse seine vessels and two carrier vessels were licensed to operate in the fishery in 1987-88. Six of the vessels operated from Triabunna and the seventh mainly out of Hobart. The catch is landed at the Industrial Fish Tasmania factory (previously Spring Bay Fisheries) at Triabunna.

A research project on the purse seine fishery began in 1985-86. It was jointly funded by the DOSF and the Fishing Industry Research Trust Account (FIRTA). A three-year FIRTA grant to study the jack mackerel fishery was provided to the DOSF. The value of the grant in 1986-87 was \$84 000, with the State contributing on a dollar-for-dollar basis.

A freeze was placed on the issue of Tasmanian purse seine licences in May 1987 to allow for the development and implementation of a management plan for the fishery. The plan was to be introduced before the beginning of the 1988-89 season.

The fishing fleet would be divided into two classes of vessel; larger specialist purse seine vessels and smaller multi-purpose vessels. The fishery was divided into two sectors with the smaller vessels (under 20 metres) having open access to 5000 tonnes of the resource and the

larger vessels (over 20 metres) limited to a portion of a total allowable catch (TAC) which is set annually. The TAC is divided between vessels with open access and those with quota limits.

The majority of the TAC will be limited to quota vessels. If the total catch of the smaller vessels in the open access sector exceeded 5000 tonnes annually then restrictions on the sector would be reviewed.

The fishery experienced problems in the first operational season of the management plan as many of the vessels that were allocated a quota found very few fish to catch until the season was almost over. At the end of 1988 the numbers of jack mackerel caught dropped dramatically. The mackerel, which feed on near-surface populations of krill, become available when the krill are abundant and form into dense feeding schools. The krill were not abundant in late 1988 and hence the mackerel did not appear in large surface schools, preferring instead to feed on other fish species (such as lanternfish) in deeper water where they are not accessible to the purse seine vessels.

The absence of krill may be the result of changes in nutrient levels brought about by changes in ocean currents and sea temperatures. Water on the continental shelf was not replenished by surrounding oceanic nutrient-rich waters and hence there was no foodstock for the krill. A similar foodchain relationship exists between the *El Nino* current and the anchovy fishery off the South American coast.

15.1.7 Orange Roughy

In December 1981 the DOSF vessel Challenger discovered orange roughy off the west coast of Tasmania. It was not until 1986, when a dense aggregation of fish was discovered off Sandy Cape, that large scale commercial exploitation of the fishery occurred. This aggregation failed to re-occur in November-December 1987 and orange roughy landings for 1987-88 dropped to 322 tonnes compared with 1300 tonnes in 1986-87. The DOSF commenced a three-year research project to assess the extent of the orange roughy fishery.

In autumn 1989 large aggregations of the fish reappeared in Tasmanian waters. Major aggregations were located off southern Tasmania and off St Helens on the east coast. The St Helens 'hot spot' was identified as a spawning aggregation. Experience with the New Zealand orange

roughy fishery indicates that these spawning aggregations tend to re-occur from year to year. The Tasmanian aggregations are associated with rough-bottomed seabeds (undersea hills and pinnacles) and are harder to trawl than sandy or muddy bottoms.

The Australian orange roughy fishery appears to be divided into two types, each requiring different management practices. Non-spawning aggregations tend to occur in the warmer months and tend to disperse when they have been fished by a few vessels. The spawning aggregations tend to form in the winter months and, because they do not disperse with continued fishing effort, are more vulnerable to overharvesting and depletion of breeding stocks.

In 1989 a proposal to implement a total allowable catch (TAC) on the south-east trawl fishery was put forward by the Australian Fisheries Service. The fishery would be divided into six zones, each with an annual limit of 1500 tonnes. The proposed TAC would be most appropriate for the non-spawning aggregations rather than the spawning aggregations which would require more careful management.

As an interim measure to protect the St Helens spawning aggregation, a ban was placed on the fishery from August 1989 to April 1990. A TAC of 15 000 tonnes was set for the east coast unit stock for the fishing year ended 30 April 1990. In the 1989 fishing season almost 30 vessels landed around 13 000 tonnes of



Unloading orange roughy.
Photo:
Mercury

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Atlantic Salmon Farming*

Atlantic salmon were re-introduced into Tasmania in July 1984 when the Sea Fisheries Department took delivery of 100 000 Atlantic salmon ova. They were subsequently hatched in a specially designed quarantine station at the Taroona research laboratory. These were the first steps towards establishing a thriving Atlantic salmon farming industry in Tasmania which is now yielding in excess of 2000 tonnes of Atlantic salmon annually.

The largest producer in this new primary industry is Tassal Ltd which is based at Dover in southern Tasmania. In addition to the Dover site, Tassal operates two sites in the Huon and a coastal site at Stringer Cove. The enterprise operates four farming sites and controls production from the smolt stage (when juvenile fish are released into salt water) to harvest and marketing.

Tassal has benefited from transfer of technology from its Norwegian parent (Noraqual). This, combined with intensive care and attention to detail, enables Tassal to get 85 to 90 per cent of salmon from smolt to harvest.

A harvesting rate objective of 85 per cent to 90 per cent of stock is obtainable with the following procedure:

- attention to the feeding program to set the right daily food intake and close observation of feeding behaviour as feeding behaviour changes can be an early warning of problems;
- daily temperature, oxygen and salination checks and maintenance of records for matching of fish performance;
- frequent changes of fish pen nets due to algal growth - weekly in summer, monthly in winter:
- · daily removal of dead fish;
- maintenance of predator nets to keep seals away from the pens;
- fish grading by weight to maintain fish size uniformity in pens so that all fish get equal food amounts; and
- frequent monitoring of weight gain and general health.

All of these measures are designed to prevent disease outbreak and to provide an early warning of problems. The salmon are harvested at about 3½ years and have a whole fish weight of 3.5 kilograms.

Tassal salmon is air-freighted fresh, gutted on ice, to markets in Japan, South East Asia and mainland cities during the harvest season with similarly presented frozen salmon available the year round. Approximately 25 per cent of Tassal's harvest is further processed to produce a range of 'value-added' products which have year round availability, such as frozen-portion controlled salmon cutlets and fillets, traditional cold smoked sides of salmon, portion-controlled sliced smoked salmon packs and Atlantic salmon caviar.

Life Cycle of a Tassal Atlantic Salmon

Year 1:

May-June - at the Saltas Salmon hatchery at Wayatinnah fertilised eggs from broodstock are washed and put into incubators. June-July - eggs grow to egg-eyed stage in fresh filtered water. They are then moved to hatchery troughs to hatch as sac fry and develop to the swim-up stage. August - swim-up fry transferred to constant temperature interior tanks for feeding and growth. November-December - fish are weight checked and graded by size. Smaller fish are placed back into interior tanks, the larger fish are placed in unheated, intermediate tanks outside. February-March - after reaching a weight of four grams, they are moved into outside tanks six metres in diameter.

Year 2

September-October - at a weight of approximately 65 grams, the juvenile fish go through a natural physical change to become smolt, enabling fish to move from freshwater to saltwater. Smolt are transferred to fish cages at a brackish water farm site at Brabazon Point in the Huon estuary, where they are acclimatised to seawater. April-May - fish cages are slowly towed to Tassal's Dover site, and the fish transferred to large ocean pens, 20 metres in diameter and six to eight metres deep. Fish are graded according to size, with fish of the same size class being grown in the same pen.

Year 3:

August - another grading by size. September-February - harvesting of fish, which begins at a whole fish weight of 3.5 kilograms, or head-on gutted weight of three kilograms.

*This article is based on information provided by Tassal Ltd.

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orange roughy in the State. A total of 24 000 tonnes was taken in waters around the State; 6000 tonnes from southern aggregations and the remainder from the east coast, primarily the St Helens aggregation. Overall value of the catch was estimated at \$45 million.

15.1.8 Eels

Harvesting of freshwater eels has only recently commenced in Australia with operations in Tasmania beginning in the north-east of the State in 1987. The Tasmanian operation is centred around Rushy Lagoon, a 25 000 ha sheep and cattle-grazing property near Scottsdale. Wild eels are harvested in the marshes, lagoons and dams around the property.

Two species of eel are caught, the longfin eel (Anguilla rheinhardtii) which average four to five kilograms in weight and the more common shortfin eel (A. australis) which average two to three kilograms. The longfin eels are exported live to Taiwan and are worth \$2.25 per kilogram. The shortfin eels which are smoked and processed in Melbourne, are exported to Germany and are worth \$3.50 per kilogram.

In 1987-88, 1.5 tonnes of eels were harvested. This increased to 3.5 tonnes in 1988-89.

15.2 LICENSING

All commercial licences to operate in Tasmanian fisheries are issued or transferred through the Division of Sea Fisheries. An agency service is also provided for the Australian Fisheries Service in relation to licensing in Commonwealth waters.

15.5 COMMERCIAL LICENCES AT 30 JUNE 1988

Licence type	Number
Fishing boat	949
Purse seine	35
Pelagic trawl	13
Commercial craypot	322
General commercial scallop	55
Commercial abalone	125
Commercial diving	261
Fisherman's licence	1 016
Commonwealth fishing boat	373
Commonwealth master fisherman	415

Revenue received from licences (other than the two Commonwealth licences) was \$2.76 million in 1987-88 and \$1.88 million in 1986-87. Just over 80 per cent of the revenue related to commercial abalone licences.

15.2.1 Review of Licensing Provisions

Successful fishery management depends upon a licensing system that gives effect to fishery management decisions. The Tasmanian licensing system at the time of review was an ad hoc mixture of rules and decisions made to meet issues as they came up. The licensing system and the *Sea Fisheries Act* did not reflect a coherent fishery management policy nor set out policy parameters for Tasmanian fisheries.

To overcome these shortcomings, a licensing review panel was established in 1988. This was a major event for the fishing industry.

On the panel was a professional fisherman (representing fishermen), a representative of the Tasmanian Fishing Industry Council (TFIC) and a representative of the Sea Fisheries Department. The panel was chaired by the Government's special legal counsel.

The panel had to come up with a licensing system appropriate to Tasmania's fishery. Its brief was to:

- · simplify and improve the licensing system;
- provide a system giving greater certainty to commercial fishermen; and
- ensure an appropriate return to the community.

The last criterion mentioned targeted the survival of commercial fisherman rather than achieving an optimum return from the Tasmanian fishery. Input from commercial fishermen was encouraged. Fishermen wanted:

- the Tasmanian fishery jurisdiction to extend to latitude 39°12'S;
- the establishment of a multi-purpose diversified fishery;
- · equal opportunity for all participants;
- the Tasmanian fishery as a whole to be strictly controlled;
- · total limited entry; and

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 recognition that the Tasmanian fishery is traditionally a owner-operated industry and this should be maintained.

The panel's report was presented in early 1989.

The main findings were:

- Except for jack mackerel the major fisheries (including abalone and rock lobster) should be managed as a component of a single entry diversified fishery.
- Licences should be issued to individuals, rather than boats or companies. (This was in support of the owner-operator principle.)
- Licence holders should have the option of renewal for up to five years at a time.
- The Sea Fisheries Department should be made responsible for licensing rather than as at present having the Minister involved in day-to-day licensing administrative matters.
- A simplified review and appeals panel system should be established to which fishermen could take complaints.
- The jumble of regulations and legislation should be rewritten into a document that reflects management policies and philosophies.

It was the panel's view that these points would improve the management of fisheries, improve data needed for research, and give fishermen an asset in the form of their licence which could be used in financial dealings.

15.3 MANAGEMENT AND RESEARCH

Research forms an integral part of effective management of fisheries. In the past, lack of research has resulted in poor understanding of fisheries, inadequate management and consequent stock depletions.

Research programs into scallops, rock lobsters, orange roughy and jack mackerel have resulted in the Division of Sea Fisheries reviewing its management policies in order to preserve these fisheries. The Division is also actively in-

volved in research projects associated with marine farming and sea management. Poachers can jeopardise the future of the abalone and rock lobster fisheries in particular, so they have been targeted in a reviewing of regulations.

15.3.1 Marine Farming

(This is taken from an article in the Mercury.)

Tasmania has entered a new era of fishing, an era in which aquaculture looks ready to surpass wild fisheries in export profits.

The marine farming division of the Department of Primary Industry anticipates that within the next five years the value of aquaculture products in Tasmania will exceed the State's total catch of wild fish and shellfish.

During the next 10 years aquaculture is expected to supply the world with 50 per cent of its fish, and Tasmania will be among the world's respected suppliers.

Despite an oversupply of Atlantic salmon and a drop in prices on the interstate and international market, Tasmanian exports are still receiving premium price.

In 1985 there were no salmon farms in Tasmania, but by the end of 1989 there were 35 salmon farms that together employed 450 people, and the industry was producing 1800 tonnes of Atlantic salmon and 1000 tonnes of ocean trout with a combined value of \$44 million.

In 1990 some Atlantic salmon farms were forced to amalgamate and in the future it is predicted that there will be fewer farms but they will be bigger and more efficient.

A big reason for the success of Tasmania's salmon industry is the State's freedom from the serious diseases that have devastated salmon farmers elsewhere in the world.

Meanwhile the marine farming division is working on developing the farming of stripey trumpeter as an alternative to Atlantic salmon.

If the project is successful, Tasmania could earn \$50 million a year from the export of stripey trumpeter. The large white-fleshed fish would give consumers an alternative to the pink-fleshed Atlantic salmon.

The stripey trumpeter program started in 1988 and already the Japanese market has offered as

much as \$18 a kilogram for a consistent supply of top quality fish.

Stripey trumpeter is said to be ideal for farming. Despite being taken out of its usual depth of 50 to 100 metres, this docile native is not susceptible to the many diseases that affect salmon.

After 10 years Tasmania's oyster industry is moving ahead strongly. While Sydney oyster farmers are suffering because of the latest poison scare, demand for Tasmania's Pacific oyster has trebled.

Tasmania's oyster industry is overwhelmed with interstate and international demand. Its biggest market, Melbourne, eats as much as 80 per cent of the production, or \$10 million worth.

The marine farming industry has confidence in its future. There is a high demand for the products, the industry is now an industry of businesspeople backed by researchers, and Tasmania is free from serious fish diseases and has relatively pollution-free waters

The Division of Sea Fisheries has responsibility for oversighting marine farming. It licenses marine farms and is actively involved in research projects associated with marine farming.

15.3.2 Sea Management

Since white settlement Tasmania has been regarded as providing bountiful natural resources often with little regard for the future.

However, in recent years the opinion that our resources are inexhaustible has changed, especially in wilderness areas.

15.6 NUMBER OF MARINE FARMS, 30 JUNE 1988

Туре	Number (a)
Abalone	5
Atlantic salmon	35
Rainbow trout	33
Flat oysters	31
Pacific oysters	79
Mussels	20
Scallops	2
Stripey trumpeter	2
Seaweed	1

(a) Farms can be licensed to grow more than one species.

Approximately 20 per cent of the State's land area is protected by World Heritage but little attention has been given to protecting our marine environment.

Marine Reserves

In 1990 the State Government announced a draft proposal for four marine reserves on the east and south coasts with plans to create more in the future. The first proposed marine reserves will be at Bicheno (maximum size 220 hectares), Maria Island (2000 hectares), Tinderbox (60 hectares) and Ninepin Point (45 hectares) in the D'Entrecasteaux Channel. They cover less than two per cent of Tasmania's coast line. The aim is to establish reserves representative of each of the four Tasmanian marine provinces as well as smaller specific reserves for scientific recreational purposes.

Marine Reserves offer the hope of ensuing that the marine eco-system and the resource industries based on it, such as fishing, will survive.

If marine reserves are to be successful firstly they must be of sufficient size to support and protect the eco-system and secondly there must be a ban on killing, removing and disturbing the life in the reserve. Recreational activities such as swimming or yachting would be permitted within the reserves as long as marine life is not taken or disturbed.

15.3.3 Poaching

A major problem confronting the Tasmanian fishing industry is poaching. Two species, both high unit value and vital to the viability of the fishing industry, are particular targets of the poacher. The species are abalone and southern rock lobster (crayfish). Poaching activities can jeopardise the future of the fisheries.

To curb poaching, new regulations were introduced in late 1988. Key elements of the regulations were:

- daily catch limits;
- · possession limits; and
- · a fish sale receipt system.

The regulations were aimed at helping fisheries police to detect and successfully prosecute poachers. Regulations were not targeted at the genuine amateur recreational fishers. However, in November the Legislative Council disallowed

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the regulations to the dismay of the fishing industry.

The Legislative Council was lobbied by fishermen and the Tasmanian Fishing Industry Council (TFIC). The Minister for Sea Fisheries and Sea Fisheries Department put cases to the Council for re-instatement of the regulations. The representations were successful and in December the Legislative Council restored the regulations with minor amendment.

Some of the main provisions of the regulations are:

- a daily catch limit of five crayfish per licence holder;
- a possession limit of 10 crayfish and 20 abalone per person; and

 a fish sale receipt system for all vendors who have fish of any species for resale; the receipts must be available for inspection and are to be kept for two years.

The fish sales receipt system will enable the prosecution of vendors who buy poached fish. This is a major step in combating poachers as it helps cut out the market for poached species.

15.4 REFERENCES

Department of Sea Fisheries, Annual Report, Government Printer, Hobart

Tasmanian Fishing Industry Council, Fishing Today, Turtle Press Pty Ltd, Sandy Bay

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ENERGY

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Chapter 16

ENERGY

The Australian Bureau of Statistics conducted a survey of all industries except agriculture to determine the level of energy consumption in the 1986-87 financial year. Nationally the estimate of total energy consumption was 2 791 000 terajoules. The Tasmanian energy consumption component of the national total was 53 100 terajoules, or just under two per cent.

About 20 000 industrial and commercial establishments were included in the survey. Data were collected on the source of the energy consumed and the purpose for which it was used.

In the 1985-86 financial year a survey was conducted of the energy consumption patterns of households in private dwellings, and on the incidence of dwelling insulation by type of dwelling.

It should be noted that in the estimates of energy consumption by industry an element of

16.1 ENERGY CONSUMPTION, BY INDUSTRY, TASMANIA, 1986-87

Туре	Amount (terajoules)	Proportion (%)
Electricity	24 402.9	46.0
Automotive petrol	3 147.6	5.9
Automotive diesel	5 281.0	9.9
Liquefied petroleum gases	971.0	1.8
Fuel oil	5 269.9	9.9
Black coal	8 615.2	16.2
Wood	3 980.9	7.5
Other	1 433.3	2.7
Total	53 101.8	100.0



The Mackintosh Power Station at the foot of the Mackintosh Dam.
Photo: Hydro-Electric Commission

double counting exists. Fuels, such as coal and natural gas, used to generate electricity were counted in the consumption figures for those fuels as well as in the figure for electricity.

Not surprisingly, the Tasmanian source of energy consumed pattern differed markedly from the national pattern. Some 46 per cent of energy (24 403 terajoules) consumed in Tasmania was electricity. (Virtually all was generated from hydro schemes.) Nationally only

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12 per cent of energy consumed was electricity: the main source of energy was black coal (31 per cent of all energy consumed), followed by natural gas (16 per cent). Of the 856 800 terajoules of energy from black coal, 88 per cent was consumed in the electricity and gas supply industry, primarily for electricity generation.

In Tasmania, black coal accounted for 16 per cent of energy (8615 terajoules), while natural gas was not reported as an energy source used. Other major energy sources were automotive diesel (5281 terajoules) and fuel oil (5270 terajoules), 9.9 per cent each, wood (3981 terajoules or 7.5 per cent) and automotive petrol (3148 terajoules or 5.9 per cent). This contrasts with national consumption figures of only 2.6 per cent for fuel oil and 0.6 per cent from wood.

The manufacturing sector used approximately 75 to 80 per cent of all energy consumed by industry in Tasmania during 1986-87. Because the energy consumption figures for certain sectors of the manufacturing industry are confidential, exact energy consumption figures are not available.

Around one-quarter of total energy used by the manufacturing industry was used by the paper,

paper products, printing and publishing industry class (10 872 terajoules or 20.5 per cent). If wood, wood products and furniture (which includes sawn timber and woodchip production) are added (3084 terajoules), then these two industries used around a third of the total energy consumed by the manufacturing sector. (Nationally these two industry classes used only eight per cent of the total energy consumed by manufacturing.)

Other major manufacturing energy users in Tasmania were food, beverages and tobacco (2685 terajoules or 5.1 per cent) and cement, concrete and other non-metallic products (2211 terajoules or 4.2 per cent).

Other principal industry consumers of energy were mining (seven per cent of total energy consumption); community services, recreation, personal and other services (five per cent); and road transport (four per cent).

Major non-manufacturing industrial users of electricity include the mining sector (1468 terajoules) and community services, recreation, personal and other services (1572 terajoules). The road transport sector consumed 34 per cent of the 5281 terajoules of automotive diesel fuel

16.2 ENERGY CONSUMPTION BY INDUSTRY DIVISION, 1986-87

	Tasmo	Tasmania		Australia	
Industry	Terajoules	%	Terajoules	%	
Mining	3 931	7	125 265	5	
Manufacturing	n.p.	n.p.	851 806	31	
Electricity and gas	n.p.	n.p.	1 330 695	48	
Water, sewerage					
and drainage	144		7 083		
Construction	818		35 140	1	
Wholesale trade	1 060	2	30 189	1	
Retail trade	1 131	2	45 212		
Road transport	2 143	4	76 574	2 3	
Rail, water, air and					
other transport	1 420	3	118 891	4	
Storage and services					
to transport	374	1	13 212		
Communication	150		6 840		
Finance, property and				randa ka saka	
business services.					
and public admin.	1 102	2	60 618	2	
Community services,			00 010		
recreation, personal					
and other services	2 730	5	89 028	3	
Total	53 102	100	2 790 554	100	

used by industry in Tasmania and only eight per cent of the automotive petrol used.

In 1987-88, the Australian Bureau of Agricultural and Resource Economics (ABARE) estimated that Tasmania produced 600 kilotonnes of raw black coal, of which 380 kilotonnes were saleable. Preliminary figures for 1988-89 are 645 and 407 kilotonnes respectively. In a 1986-87 industry energy survey, the Australian Bureau of Statistics estimated that one tonne of Tasmanian black coal would provide 22.8 gigajoules of energy.

Gas is only a minor energy source in Tasmania. Town gas is manufactured and reticulated in Launceston only. Bottled LPG is a minor domestic, commercial and motor fuel in the State. In 1988-89, Tasmania produced 56 million megajoules of gas (available for issue through the mains). In 1987-88 this figure was 54 million megajoules.

16.1 HOUSEHOLD ENERGY USAGE

A 1985-86 household energy survey estimated energy usage patterns for 142 300 households in Tasmania. The survey estimated that the average Tasmanian annual household expenditure on reticulated energy was \$537. This compares with an Australian average of \$564. Households in NSW recorded the lowest average figure (\$512), and those in the Northern Territory the highest (\$765).

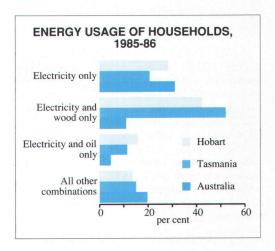
Tasmanian households, on average, consumed 34 100 megajoules of reticulated electricity.

16.3 AVERAGE CONSUMPTION OF RETICULATED ELECTRICITY, 1985-86 (megajoules)

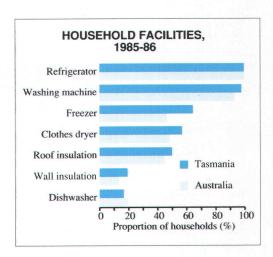
Purpose	Tasmania	Australia
Cooking only	14 400	16 000
Main heating only	n.a.	11 900
Hot water only	26 800	23 000
Cooking and main heating	n.a.	17 900
Cooking and hot water	32 100	27 900
Main heating and hot water	35 700	21 500
Cooking, main heating and		
hot water	41 700	28 200
All households	34 100	22 900

Households that used reticulated electrical energy for cooking, main heating and hot water, consumed (on average) 41 700 megajoules of electrical energy a year. The average for all Australian households was 28 200 megajoules.

Of the 142 300 single households in private dwellings in Tasmania, 74 200 use a main energy combination of electricity and wood, and 29 400 used electricity only.



Tasmanian households that only used electricity consumed, on average, 40 800 megajoules of reticulated energy annually in 1985-86. This compares with consumption figures of 32 000 megajoules and 34 200 megajoules for households that had main energy combinations of electricity and wood only, and electricity and oil only (respectively).



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Ownership of electrical appliances and insulation was also estimated in the survey. Ninetynine per cent of Hobart and Tasmanian households owned a refrigerator. However, only 16.5 per cent owned a dishwasher and 64.2 per cent a freezer, compared with 19.7 per cent and 46.4 per cent respectively for Australia.

16.2 HOUSEHOLD ENERGY EXPENDITURE

The 1988-89 Household Expenditure Survey (HES) estimated that Tasmanian households spent an average \$13.95 a week on household fuel and power (2.6 per cent of average weekly household income), and \$22.72 a week on motor vehicle fuel, lubricants and additives (4.2 per cent of average weekly household income). This compares with estimates for Tasmanian households from the 1984 HES of \$10.91 (2.8 per cent) for household fuel and power and \$16.43 (4.2 per cent) for motor vehicle fuel, lubricants and additives.

16.4 AVERAGE WEEKLY HOUSEHOLD ENERGY EXPENDITURE, TASMANIA (\$)

	1988-89	1984
Average weekly household		
income	541.32	392.47
Household fuel and power -		
Electricity (selected dwelling)	12.10	8.81
Electricity (other dwelling)	0.19	0.13
Total electricity	12.28	8.94
Mains gas	0.08	0.09
Bottled gas	0.48	0.53
Total gas	0.56	0.62
Heating oil	0.52	0.48
Kerosene and paraffin	0.03	0.10
Wood (for fuel)	0.55	0.76
Fuels nec	n.a.	n.a.
Total other fuels	1.10	1.35
Total fuel and power	13.95	10.91
Motor vehicle fuel, lubricants		4507
and additives -		
Petrol	21.70	15.98
Diesel fuel	0.23	0.12
LPG and other gas fuels	n.a.	n.a.
Oils, lubricants and additives	0.74	0.32
Total	22.72	16.43

In Hobart where 1988-89 average weekly household income was estimated at \$557.73, \$14.28 was spent on household fuel and power, and \$19.31 on motor fuel, lubricants and additives. This compares with estimates from the 1984 HES of \$11.58 and \$18.46 respectively, from an average weekly household income of \$443.34.

16.3 PETROLEUM PRODUCTS

The total sales of petroleum products in Tasmania in 1988 was 850.6 megalitres or 2.3 per cent of all Australian sales. (Tasmania has 2.7 per cent of the Australian population.)

Slightly more than half the sales were petrol (leaded and unleaded). Nationally petrol sales made up 46.0 per cent of all petroleum products. Unleaded petrol sales accounted for 13.6 per cent (60.0 megalitres) of all petrol sales in Tasmania.

Between 1987 and 1988 there was a 1.7 per cent rise in sales of petrol in Tasmania. Total sales of all petrol in 1987 were 434.9 megalitres and 442.3 megalitres in 1988. (Nationally, petrol sales increased 3.4 per cent from 16 214.8 megalitres to 16 774.0 megalitres over the same period.)

Petrol and automotive diesel sales are substantial revenue earners for the State Government. Since 1983-84 franchise fees levied on petrol and automotive diesel sales have provided a 33 per cent increase in revenue to the government.

16.5 FRANCHISE LICENCE FEES, TASMANIA, (\$m)

Year	Petrol	Automotive diesel	Total
1983-84	10.3	0.9	11.2
1984-85	11.7	2.2	13.9
1985-86	13.3	3.2	16.5
1986-87	29.4	7.1	36.5
1987-88	29.6	7.6	37.2

Source: Petroleum Gazette 1989/2.

16.6 C	ONSU	MPTION	OF	PETR	OLEUM
	PROD	UCTS,	TASM	ANIA	

	1988		1987	
Product	Megalitres	Per cent	Megalitres	Per cent
Liquefied petroleum gas	1.3	0.1	1.4	0.2
Aviation gasoline	3.5	0.4	3.2	0.4
Petrol (leaded and unleaded)	442.3	52.0	434.9	50.6
Aviation turbine fuel	32.8	3.8	34.1	4.0
Lighting and power kerosene	1.6	0.2	2.0	0.2
Heating oil	13.4	1.6	13.2	1.5
Automotive diesel fuel	251.1	29.5	253.1	29.5
Industrial/marine diesel fuel	7.2	0.9	12.2	1.4
Fuel oil	73.3	8.6	77.4	9.0
Lubricants	8.6	1.0	9.7	1.1
Bitumen	15.0	1.8	16.5	1.9
Other	0.5	0.1	1.0	0.1
All products	850.6	100.0	858.8	100.0

16.4 ELECTRICITY

Tasmania's electricity requirements are provided by the Hydro-Electric Commission from a system based almost entirely on hydro installations. The total installed generator capacity at June 1989 was 2.315 million kW, of which 90 per cent (2.075 million kW) was supplied by the hydro network. An oil-fired thermal station of 240 000 kW is located at Bell Bay. This capacity had not changed from the previous financial year.

16.4.1 Supply

In 1988-89, total energy generated was 8 908 GW.h, an increase of 125 GW.h (1.4 per cent) on the figure for 1987-88. Total energy sales for the financial year amounted to 8 225 GW.h, an increase of 68 GW.h (0.83 per cent) on the 1987-88 period.

On 16 June 1989 a new record system peak power demand of 1 450.5 MW was established. This exceeded the record for the previous year by 104.9 MW.

During 1988-89 the net number of HEC customers connected to the HEC system rose by 4 217 (about two per cent) to 215 744. Major new industrial customers were the Aberfoyle Hellyer Mine at Que River, Southern Aluminium Limited's automobile wheel casting plant

16.7 ELECTRICITY SALES, TASMANIA (million kWh)

Purpose	1988-89	1987-88
Residential	944.8	938.9
Industrial	545.1	531.1
Hot water	565.9	578.8
Off-peak	247.2	250.2
Lighting	n.a.	113.4
Commercial	384.9	253.8
Bulk commercial	65.8	68.6
Major industrial	5 419.7	5 381.9
HEC use, unread meters	51.5	40.7
Total	8 224.9	8 157.4

Source: HEC Annual Report.

at Bell Bay, and Australian Glass Manufacturer's Company in Moonah.

Total income for 1988-89 was \$345.6 million, an increase of seven per cent over the figure for 1987-88 of \$322.9 million. The net profit for the year of \$10.3 million just exceeds the combined losses for the two previous years (\$4.3 million in 1986-87 and \$5.5 million in 1987-88).

An increase in retail tariffs, together with a small growth in energy consumption, contributed to an increase of 5.3 per cent in income from the retail sector (from \$199.7 million in 1987-88 to \$210.3 million in 1988-89). Income from the major industrial users rose by 10.4 per cent from \$106.5 million to \$117.6 milli

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lion in the same period. The sales in 1987-88 had been partially depressed by unusually warm weather conditions in the early part of the winter.

16.8 ELECTRICITY CONSUMERS, TASMANIA

	Nui	Number		
Consumers	1989	1988		
Residential	175 472	172 109		
Public utilities	5 062	4816		
Industrial	17 761	17 306		
Commercial	15 865	15 549		
Major industrial	21	18		
Miscellaneous	1 563	1 729		
Total	215 744	211 527		

Source: HEC Annual Report.

16.4.2 Water Storage

Total water storages at the end of 1988-89 were 34.9 per cent compared with 29.7 per cent the previous financial year. Rainfall in one month (October 1988) boosted storages by 10.8 per cent.

The total energy equivalent in HEC water storages was 5 021 gigawatt hours at 1 July 1989. This compares with 4 281 gigawatt hours the previous year.

In April 1990, the HEC's West Coast water storages dropped to below 25 per cent of capacity and fuel costs for the 240 megawatt thermal power station at Bell Bay were expected to top \$40 million. Bell Bay can supply 20 per cent of the State's power needs but uses more than 30 000 tonnes of fuel each month (at a cost of \$2 million a week).

16.9 POWER STATION OUTPUT (excluding King and Flinders Islands)

Power		Energy A (MW.h)		age load MW)	Peak load (MW)	
station	1988-89	1987-88	1988-89	1987-88	1988-89	1987-88
Waddamana	4 933	2 086	0.6	0.2	20.3	20.0
Butlers Gorge	70 045	80 856	8.0	9.2	12.1	12.2
Tarraleah	603 800	672 362	68.9	76.5	91.0	91.0
Lake Echo	53 597	125 212	6.1	14.3	34.0	34.5
Tungatinah	517 282	499 159	59.1	56.8	132.5	132.5
Liapootah	450 005	448 690	51.4	51.1	87.0	87.0
Wayatinah	262 555	262 520	30.0	29.9	44.0	43.0
Catagunya	232 012	228 691	26.5	26.0	49.0	48.0
Repulse	146 798	142 645	16.8	16.2	32.0	32.0
Cluny	90 430	85 722	10.3	9.8	19.0	19.0
Meadowbank	182 745	167 503	20.9	19.1	42.0	42.0
Poatina	810 328	1 761 104	92.5	200.5	342.0	347.0
Trevallyn	533 856	469 669	60.9	53.5	84.0	83.5
Tods Corner	9 543	9 295	1.1	1.1	1.5	1.4
Fisher	293 581	159 064	33.5	18.1	47.0	47.0
Rowallan	39 323	30 460	4.5	3.5	11.1	9.5
Lemonthyme	335 120	220 996	38.3	25.2	58.0	58.0
Wilmot	146 341	97 357	16.7	11.1	32.5	33.0
Cethana	443 545	290 917	50.6	33.1	99.0	100.0
Devils Gate	331 702	215 994	37.9	24.6	66.5	65.0
Paloona	146 918	94 031	16.8	10.6	32.0	33.0
Gordon	1 577 312	1 481 688	180.1	168.7	387.0	389.0
Bell Bay (thermal)	58 577	55 200	6.7	6.3	240.0	120.0
Mt Lyell		443		0.1		3.7
Mackintosh	326 942	242 303	37.3	27.6	92.0	87.0
Bastyan	351 058	251 746	40.1	28.7	81.5	80.0
Reece	890 146	687 446	101.6	78.3	240.0	240.0
Total system	8 908 494	8 783 159	1 017.0	999.9	1 450.5	1 345.6

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With 11 of the past 14 years recording lowerthan-average rainfall, Tasmania's major hydro catchments are at levels similar to late 1966, just prior to the disastrous 1967 bush fires. Lake Gordon in the South-west is holding only 12.5 per cent of its capacity and Lake King William is at 15 per cent capacity. If these levels were to continue on into the summer, then power rationing would be necessary.



Water level markers and the outlet valve at Lake Echo. Photo: Mercury

The HEC had to fire up the second of the two 120 megawatt generators at Bell Bay in January 1990. The first unit was put into action in November 1989. Low-sulphur fuel for the

power station is shipped from the United States and stored at the 45 000-tonne storage tanks at Bell Bay.

16.4.3 Operating Expenses

Operating expenses decreased by 0.8 per cent from \$702.3 million in 1987-88 to total \$101.4 million in 1988-89, while financial charges decreased by 6.2 per cent to \$150.9 million.

During 1988-89, \$145.95 million was spent on capital works bringing the total capital expenditure to date to \$2.091.9 million.

16.11 HYDRO-ELECTRIC COMMISSION CAPITAL EXPENDITURE (\$m)

Project	1988-89	1987-88
Anthony Power Development	44.85	37.94
King River Power Development	70.68	56.72
Gordon Power Station No. 3 machi	ne —	10.00
Bass Strait islands reticulation	0.22	0.43
Power station extensions	0.70	1.49
Substations	2.43	10.02
Transmission lines	1.86	2.63
Distribution systems & services	20.79	17.31
Sundry buildings	4.99	11.98
Stores, general plant etc.	4.16	5.48
Construction equipment	- 4.74	- 4.02
Total	145.95	150.0

16.10 HEC WATER STORAGES AT 1 JULY

	Useful water in storage (megacubic metres)		Energy equivalent (gigawatt hours)		Proportion of full energy (per cent)	
	1989	1988	1989	1988	1989	1988
Lake Augusta	1	1	2	2	4	3
Great Lake	1 216	854	2 589	1 819	39	28
Arthurs Lake	237	197	419	348	58	48
Lake St Clair	149	156	200	209	76	80
Lake King William	101	39	136	52	19	7
Lake Echo	279	187	488	327	55	37
Tungatinah	23	24	31	32	28	28
Lake Mackenzie	5	8	11	18	24	40
Lake Rowallan	16	26	15	25	13	22
Lake Pedder	12	54	4	21	3	13
Lake Gordon	2 987	3 693	1 124	1 410	24	31
Lake Murchison		16		8		25
Lake Mackintosh	4	20	2	10	2	7
Total	5 030	5 275	5 021	4 281	34.9	29.7

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16.4.4 Major Construction Projects

Under construction, with an estimated total cost of more than half a million dollars, were the King River and the Anthony power developments, both on Tasmania's West Coast.

To take into account the availability of capital and a lower load forecast, the Commission reprogramed the completion dates of the King scheme to March 1992 and the Anthony scheme to mid-1994. This involved some reduction in employment.

At the King site, manpower was reduced from 682 to 404 by natural attrition and voluntary redundancy.

King River Power Development

At the Crotty damsite, the main activities in 1988 included the virtual completion of the river diversion tunnel, inlet structure and dewatering shaft.

Work on the seven-kilometre-long King headrace tunnel, which runs beneath Mt Jukes to the King Power Station, was completed in 1989. This tunnel will carry water from Lake Burbury in March 1992. It was 'holed through' four months ahead of schedule.

At the King Power Station, the foundation and walls were completed in 1989 and the roof was being erected. Preparations for the installation of the turbine were underway.

The creation of Lake Burbury meant that the Lyell Highway had to be diverted. It was rerouted to cross the lake at its narrowest point, where a major new bridge will span the lake.

Anthony Power Development

At the Anthony site, the workforce was reduced from 548 to 361 with no forced retrenchments.

At the Henty Dam the final concrete pour was completed in May 1988 and the diversion closure took place in July 1988. Water was diverted to Lake Murchison via the Henty Canal and the Anthony River for the Pieman River Power Development.

The Henty Canal is also receiving water from the newly completed White Spur Dam and Canal. Tunnelling began in 1989 for access to the Anthony underground power station and the seven-kilometre-long Anthony headrace tunnel. At Newton Creek, the pump station building was completed and the installation of pumps and motors was well advanced.

During the year, work continued on access roads to the Anthony Power Station and headrace tunnel access portals.

16.4.5 Future Expansion

Annual load growth has fluctuated markedly in recent years. There have been shifts between high and low growth in both the major industrial and retail sectors. State population growth is slow and unemployment relatively high. These factors, together with higher foreign exchange rates and high interest rates have created an economic climate in which industry is having difficulties reaching decisions about new developments.

Under these conditions an annual load growth of between one and two per cent would be a reasonable forecast. The Commission reviewed its long term load forecast during the 1987-88 year. However, at this stage there is not sufficient evidence to upgrade the previous forecasts and overall it remains unchanged.

16.12 HEC FORECAST EXPANSION, TASMANIA (MW)

Year	1990	1995	2000
Average load	1 063	1 160	1 227
Peak load	1 476	1 598	1 691

Investigation of future power scheme options is an on-going function. During the year investigations continued to define the cost and scope of such hydro-electric options as the Lower King, Que, Lake Augusta and King Racelines, and potential redevelopment of old existing schemes at Tarraleah and Lake Margaret.

In addition, analysis continued on the costs of energy production from a range of options including thermal, wind power and wave power. Also considered were the prospects of improving the efficiency of the system by reducing generation and transmission losses.

Liquid Fuels from Oilseed in Tasmania*

Tasmania is the only Australian State with neither petroleum resources nor petroleum refining capacity. It is also the only State without access to supplies of natural gas. It is dependent entirely on imports for hydrocarbon fuels, and in particular for all liquid fuels for transport applications.

It is clear that energy planning for Tasmania must take stock of any resource within the State which might yield liquid fuels. All such resources are, therefore, to be identified and measured, and the cost of producing fuels from each is to be estimated: oilseed is one such potential energy source.

Although the search for substitutes for petroleum fuels has been extended to vegetable oils relatively recently, their potential has long been recognised. Rudolf Diesel claimed in 1912 that: 'The use of vegetable oils for engine oils may seem insignificant today. But such oils may become, in the course of time, as important as petroleum and the coal tar products of the present time.'

The properties of vegetable oils generally make them more suited to compression ignition (diesel) engines than spark ignition (petrol) engines.

Through the process of transesterification, an ester with fuel properties approximating

those of automotive diesel oil can be produced from vegetable oils. Esters have been shown to be usable fuel sources for compression ignition engines and do not appear to adversely affect performance. The esters of vegetable oils have solvent properties when in contact with thermoplastics and also oxidise copper. Further work is required to evaluate fully the effects of the ester fuel on engines, including the investigation of corrosion problems, coking and lubricant oil dilution.

At present no major oilseed crops are grown in Tasmania. Only two oilseed crops are suitable for Tasmanian conditions: these are rape-seed and sunflower seed. Some cropping of rapeseed and sunflower seed has been undertaken in the past, but low harvesting yields and the high transport costs associated with sending the seeds to mainland processing mills made returns to farmers uneconomic. Sunflower crops are subject to bird damage and are less viable economically than rapeseed as a source of oil.



Breeders inspecting 'Canola', a high quality variety of rapeseed, in flower.

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Liquid Fuels from Oilseed in Tasmania - continued

In pursuing the costs of possible fuels, the food uses of vegetable oils, or the impact of oilseed cultivation on other cash crops, has not been considered. It has been assumed that to grow oilseed will be a business decision, made by individual farmers, which will depend on such factors as land suitability and current cropping returns.

About 35 000 hectares of arable land in Tasmania could be used for oilseed cultivation each year without the displacement of existing crops. A rapeseed crop has been estimated to yield about three tonnes of seed per hectare. The extraction of vegetable oil from rapeseed in Tasmania appears to be economic. Consequently, the establishment of an oilseed industry, including an extraction plant, could be beneficial to the Tasmanian economy.

The presence of the extraction plant within the State would enable up to 20 per cent of the current automotive diesel oil usage to be replaced by vegetable oil should a sustained shortage of transport fuel arise in the future. The estimated cropping area of 35 000 hectares would yield between 70 000 and 105 000 tonnes per annum of oilseed. Returns to oilseed growers would be about the same as for peas.

Oil extraction is economic only when undertaken in a central plant. Up to two large solvent extraction plants could be established with an output oil cost of about \$779 per tonne. This would be competitive with similar plants on the Australian mainland and compares with prices of about \$900 per tonne for vegetable oils on the food market.

The wholesale ester fuel cost at the retail outlet (exclusive of taxes and based on the assumed private sector rate of return) is about 64 cents per litre, assuming all the oilseed meal can be sold on the world market. A price based on this figure is not competitive. At an estimated cost of \$1.46 per litre, farm-sale ester production is not currently economic.

*This article is an extract from Energy Planning Discussion Paper No.3, Hydro-Electric Commission.

Energy Planning

The Hydro-Electric Commission continued investigation of the State's energy resources during 1987-88 and 1988-89.

Priority was given to the means of reducing the extent to which the State is dependent on imported liquid fuels.



Tanker 'Iron Gippsland' at Bell Bay discharging 33 000 tonnes of low-sulphur fuel for use at the thermal power station.

Photo: Advocate

This led to the publication of two discussion papers, Liquid Fuels from Oil Shale in Tasmania and Liquid Fuels from Oilseed in Tasmania, covering the use of local resources as possible sources of transport fuels.

In 1989 the Commission also issued a discussion paper on *Demand for Firewood for Domestic Use in Tasmania* to complement an earlier report on *Energy from Wood in Tasmania*. These may be used to form the basis for policies which will improve the reliability and cost stability of firewood supplies in this State.

A further discussion paper *Battery Powered Electric Vehicles in Tasmania* was issued during the year. A further paper, *Methanol from Black Coal in Tasmania*, is well advanced, and will show how methanol might be used in the future as a substitute for petrol and automotive distillate.

The HEC Energy Advisory Centre has conducted a Government Energy Management Program which has reduced electricity costs in

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State Government buildings by about \$3.2 million annually (from the base year 1981-82).

The HEC has become involved in energy audits at large companies, including Pasminco-EZ at Risdon, and in smaller businesses. The audit involves a survey of what power a firm uses, how it is used and how it could be used more efficiently.

The Commission continued to represent the State on a number of national bodies concerned with energy matters. These include the National Advisory Committee, the National Fuels Emergency Consultative Committee, and the National Oil Supplies Advisory Committee.

16.5 RESEARCH

The Hydro-Electric Commission, together with research institutions such as the University of Tasmania and the TSIT, is involved in ongoing energy research programs. These programs have looked at ways of improving the efficiency of energy use in Tasmania as well as alternative sources of energy.

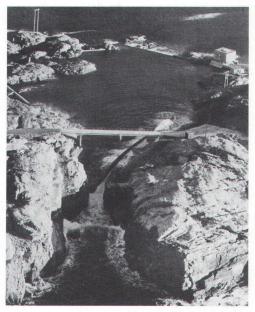
Recent HEC programs have investigated wave, wind and solar power as alternative energy options; evaluated industrial wood-fired energy systems; monitored the performance of domestic heat pumps; and collected and analysed data on distribution load patterns for transformer substations and on individual domestic residences.

Wave Power

Following discussion and exchange of information with several organisations, the Commission received three proposals for the construction and operation of a wave power plant on King Island.

After some year's research and negotiations, arrangements were finalised with a Norwegian company, Norwave, to study the feasibility of the construction of a wave power plant on the island. If built, the plant will be a first for Australia and will supply a considerable part of the island's electrical energy requirements.

The proposed development would be similar to one built on the west coast of Norway. Wave energy is used to lift sea-water up a tapered con-



The proposed 1.2MW wave power plant on King Island is similar to this one constructed in Norway.

crete channel into a small reservoir. From here it is released through a hydro-electric power station back into the sea.

Tidal Power

To harness the power of tides, large (and expensive) barriers need to be built across tidal estuaries and bays. Reversible flow turbines make use of incoming and out-going tides. An average of about eight megawatts could be obtained by harnessing the tidal power of the Tamar Estuary.

Wind Energy

The performance of the operational privately owned wind turbine now operating on Flinders Island is being monitored as part of the Commission's continuing wind power studies.

Problems associated with generating electricity from wind relate mainly to lack of control over when the wind blows. Electricity is not produced on still days. Large areas of land are needed for wind farms and some people object to their appearance and the noise they make. Despite these problems wind turbines are now cheaper than other ways of generating power in some remote areas.

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Data Loggers

These units, developed within the Commission to help measure customer load patterns, are also proving useful in other areas.

Data gathered are being used as a basis for simulating loads on distribution transformers. This will result in better use of feeder and transformer capacity. In 1989 about two hundred customers had data loggers installed at their premises to measure energy use under the different tariffs.

Natural Gas Power Station

A new power station, using natural gas from the Yolla gas and oil field, is being considered for the North-West Coast. The Yolla field, discovered five years ago, is 90 kilometres north of Burnie. If built, the new station is likely to be sited near Burnie and cost more than \$150 million. The Yolla field is rich in light oils, enough to meet 40 per cent of the State's petroleum and 140 per cent of its LPG requirements.

16.6 REFERENCES

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Chapter 17

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Chapter 17

MANUFACTURING

Manufacturing, despite a decline in relative importance over the past decade, remains one of the main contributing sectors of the Tasmanian economy. It accounts for 18 per cent of the State's gross domestic product at factor cost, second to the government-dominated public administration, defence and community sector. In employment terms manufacturing employs around 16 per cent of Tasmania's employed persons. The manufacturing sector paid just over 19 per cent of the total estimated wages and salaries paid by all industry sectors in Tasmania in 1987-88.

Since 1975-76 the value added by manufacturing has risen from \$16.4 million to \$50.7 million. Per employee the increase has been doubled, 25 per cent more than the increase paid in wages and salaries, indicating increased productivity over the period.

17.1 KEY AGGREGATES PER EMPLOYEE: MANUFACTURING (\$)

Year	Wages and salaries	Turnover	Value added
1975-76	7 610	37 100	16 430
1976-77	8 860	43 190	19 210
1977-78	9 580	46 210	18 470
1978-79	10 210	53 770	21 080
1979-80	11 400	63 310	24 990
1980-81	13 060	70 380	26 890
1981-82	14 340	73 540	27 630
1982-83	16 100	81 730	28 860
1983-84	16 910	90 640	34 200
1984-85	18 090	98 920	38 290
1986-87 (a)	21 640	125 380	50 750

(a) No census 1985-86; 1986-87 latest year of full manufacturing census.

Over the same interval, turnover per employee has increased by 238 per cent from \$37 100 to \$125 380.



'Christopher Columbus' (renamed 'Hoverspeed Great Britain') built by International Catamarans being launched at Prince of Wales Bay in January 1990. Photo: Mercury

In June 1990 the revolutionary seacat broke the record for the fastest trans-Atlantic crossing by a passenger service slashing 2 hours 45 minutes off the previous record set by 'SS United States' in 1952.

Over the period, employment in the Tasmanian manufacturing industry has fallen by 12 per cent from 27 800 to 24 300 in 1986-87. Since 1982-83 the downward trend in employment levels appears to have stabilised at around the 24 400 persons level. The fall in employment levels has not been confined to any one particular manufacturing sub-division - it has been general across all divisions.

17.2 EMPLOYMENT IN MANUFACTURING

Year ended 30 June	At 30 June	Average over the whole year
1983	23 853	24 085
1984	24 692	24 497
1985	24 573	24 494
1987	24 371	24 327
1988	24 640	n.a.

17.1 MANUFACTURING ACTIVITY

Three industry sub-divisions account for the lion's share of manufacturing in Tasmania; food and beverages; wood, wood products and furniture; and paper, paper products, printing and publishing. Together these sub-divisions account for over 60 per cent of manufacturing turnover and just under 60 per cent of all employment in the sector.

17.3 MANUFACTURING ACTIVITY BY INDUSTRY SUB-DIVISION 1986-87

ASIC sub-division	Average employ- ment ('000)	Turnover (\$'000)	Value added (\$m)
Food, beverages			
and tobacco	5.5	825.2	289.2
Textiles	n.p.	n.p.	n.p.
Clothing and footwear	0.7	29.6	13.5
Wood, wood products			
and furniture	3.5	399.0	163.6
Paper, paper products,		607.0	2260
printing and publishing	5.2	685.0	326.8
Chemical, petroleum and coal products			
Non-metallic mineral	n.p.	n.p.	n.p.
products	0.9	117.5	48.4
Basic metal products	n.p.	n.p.	n.p.
Fabricated metal products	1.6	123.0	51.7
Transport equipment	0.7	49.8	25.8
Other machinery and			
equipment	0.3	53.5	30.7
Miscellaneous			
manufacturing	0.4	40.6	17.1
Total	24.4	3 050.2	1 236.5

The food, beverages and tobacco sub-division accounts for 23 per cent of manufacturing employment. Vegetable processing, abattoirs and meat processing, brewing and confectionery are the main manufacturing activities within this sub-division.



Pea processing at Edgells.

Photo: Tasmap Photographics

The paper products sub-division accounts for approximately the same amount of employment as the food and beverage industries, but employment in this sub-division is almost entirely dominated by paper manufacture, 67 per cent of all employment in the sub-division.

The wood, wood products and furniture subdivision is appreciably smaller in, terms of employment and turnover. As with the other two sub-divisions, there is a concentration on particular industries, in this case on factories producing sawn timber and woodchips.

17.2 CONCENTRATION OF MANUFACTURING

Manufacturing in Tasmania is dominated by a few large manufacturing establishments. In 1988 five establishments (less than one per cent of the total) accounted for 22 per cent of persons employed at 30 June 1988, 27 per cent of wages and salaries paid during 1987-88 and 26 per cent of manufacturing turnover.

Of the major employing industry subdivisions the most even spread occurs in the wood, wood products and furniture sub-division where the smaller establishments (those employing less than 20) accounted for almost 30 per cent of employment. In the paper, paper products and printing sub-division five per cent of establishments were responsible for 62 per

17.1.1 Food and Beverages

Cadbury Schweppes Australia Ltd (Claremont). In 1921 an association of three British confectioners established their Australian plant at Claremont, near Hobart. Today the company is wholly owned by a single UK parent. The plant is the largest cocoa and confectionery factory in Australia. The factory employs about 1000 people and specialises in moulded chocolate blocks, fancy boxed assortments, cocoa, drinking chocolate, the well known Flake, Turkish Delight Bars and Twirl.

Some 30 million litres of fresh Tasmanian milk are used each year, most of which is collected and processed at Cadbury's Burnie dairy factory. Recent investment has occurred with the transfer of product lines resulting in additional employment opportunities in Tasmania.

Cascade Group of Companies (Statewide). The company is the oldest manufacturing company in Australia and is firmly established in the beverage industry at manufacturing, wholesale and retail levels. The company manufactures alcoholic beverages at Esk Breweries. Launceston (Boags Beer) and Cascade Brewery, Hobart (Cascade Beer). Cascade has a capacity of 55 million litres. New owners Wilson Neill Ltd are focusing on mainland and overseas penetration for their brands especially Cascade Premium.

The Cascade Fruit Juices Division manufactures alcoholic cider under the brand names Mercury and Van Dieman, and also Apple Isle non-alcoholic cider, Ultra-C blackcurrant vitamin C syrup, soft drinks, pure fruit juices, fruit juice syrups, berry fruit pulps and concentrations for local and export distribution.

Cascade has the largest wine and spirits wholesaling operation in the State with major outlets in Hobart, Launceston and Ulverstone. The company owns hotels spread throughout the State, and has a joint venture with Elders IXL to operate hotels in Queensland.

Edgell-Birds Eye Division of Petersville Industries Ltd (Devonport, Ulverstone and Scottsdale). This company is Tasmania's leading processor of frozen and canned vegetables. An annual volume of approximately 207 000 tonnes of raw materials is required by the Devonport, Ulverstone and Scottsdale factories. Crops processed include potatoes, green peas, green beans and carrots.

McCain Foods (Aust.) Pty Ltd (Smithton). The Canadian parented McCain group purchased the Smithton factory of General Jones in June 1984.

The factory produces frozen vegetables, of which the main brands are Copper Kettle, Pict and McCain. A french fry section opened in April 1989. Capacity is expected to be increased by a further 25 per cent to meet increasing demand for frozen vegetables in a \$5 million upgrade to be completed in the early 1990s. McCain employs 300 full-time staff with up to 300 part-time staff in peak periods.

United Milk Tasmania Ltd (Smithton, Wynyard, Devonport, Legerwood). UMT is the State's largest manufacturer of dairy products and processes 200 million litres of milk a year. Annual production in 1987-88 included: butter (salted and unsalted) 4040 tonnes, cheese (cheddar) 10 100 tonnes, milk powders (skim, full cream and buttermilk) 7000 tonnes.

The company also produces milk concentrates and operates retail produce/hardware stores and a farm machinery business servicing rural areas. In 1989 the company through a joint venture with Tasmanian business, expanded its range to shelf stable beverages and foods.

Lactos. After operating in Tasmania in 1953, Lactos was acquired by the French company, Bongrain, in 1981. A renewed focus by management on marketing and product development has led Lactos away from static 'hard' cheese markets to high quality specialty 'soft' products and in the process secured a financial turnaround.

Bongrain opened a soft ripened cheese factory at Burnie in 1985. In 1989 these operations were extended at a cost of \$2 million doubling soft ripened cheese production to 600 tonnes per annum.

Lactos has 50 per cent of the Australian soft cheese market. Export markets to Japan, Malaysia, Indonesia, United States and the French speaking Tahitians and Noumeans have developed.

The Company is expanding its product line of nine specialty cheeses with the introduction of a mild Brie 'Heart of Brie' targeted at Australian tastes, 'Tasmanian True Blue' a blue vein cheese, whipped cream cheese for the Japanese market, and a range of goats milk cheese.

cent of employment. In the same sub-division nine per cent of establishments accounted for over three quarters of employment and 84 per cent of turnover.

17.4 NUMBER OF ESTABLISHMENTS BY EMPLOYMENT SIZE: 30 JUNE 1988 (a)

	Establ	ishments	Employment	
Employment category	No.	Per cent	No.	Per cent
< 20	483	70.4	3 808	15.4
20 < 50	108	15.7	3 275	13.3
50 < 100	47	6.9	3 250	13.2
100 < 200	28	4.1	3 784	15.4
200 < 500	15	2.2	5 041	20.5
500 and over	5	0.7	5 482	22.2
Total	686	100.0	24 640	100.0

(a) Employment at 30 June.

17.3 GEOGRAPHICAL DISTRIBUTION

The geographic distribution of Tasmania's manufacturing activity, as to be expected, corresponds to the population distribution.

The Greater Hobart Statistical Division is the major centre of manufacturing. In 1987-88 this region accounted for 35 per cent of employment, 32 per cent of wages and salaries paid and



Cascade Brewery. Photo:Tasmap Photographics

34 per cent of turnover generated by manufacturing. The main manufacturing activities in this region included paper manufacture, metal refining, confectionery, brewing, printing, clothing, textile and footwear.

The Greater Launceston Statistical Sub-division, which stretches north along each side of the Tamar River, had 27 per cent of the State's manufacturing employment at the end of 1987-88. Important industries in the area included alumina smelting, textiles and clothing, woodchip production, sawn timber and printing.



Comalco.

Photo: Tasmap Photographics

The other main industry concentration is along the north-west coastal strip from around Latrobe to Wynyard. Major industries in this area include paper manufacture, food processing (particularly vegetables), timber processing and furniture. The food processing and paper manufacturing industries account for almost 60 per cent of industry employment in this region.



17.1.2 Textiles, Clothing and Footwear

Coats Patons (Aust) Ltd (Launceston). This company first produced yarns in Tasmania over 60 years ago. The factory produces knitting yarns, both wool and synthetic, and annual production is approximately 1.5 million kilograms.

Sheridan Textile Industries Australia (Derwent Park). The Sheridan Domestic Textiles mill commenced operations in 1948. Production now involves the preparation, dyeing and printing of mainly polyester/cotton percale bed sheeting along with some commission printing. The mill also manufactures a full range of quality made-up domestic bed linen and shower curtains for Australian and export distribution.

Bonds Weaving Mills (Devonport). This mill specialises in the manufacture of terry towelling. In 1989 the Company was reported to have spent \$5.2 million in expansion and upgrading its Devonport Plant. The mill has now incorporated 'state of the art' computer technology including a nappy machine imported from Japan. The developments are part of the Company's transfer of its establishment operation from Victoria and the creation of 220 jobs.

Gazel Productions (Tas.). Located in a \$5 million factory at Glenorchy they produce men's and boys' board shorts and men's shirts and currently employs 110 people.

Blundstone Pty Ltd. Manufacturers of industrial, work, safety, and bushwalking footwear for interstate and overseas markets, mainly the pacific basin and Europe. Founded in 1870 in Hobart the company moved to its present location at Moonah in 1980. Blundstone Pty Ltd has two subsiduary companies. One manufactures gumboots and the other is a tannery. The company has won a design award for specially designed spike soled forestry safety boots as well as an export award for excellence in expansion of export sales.

17.1.3 Wood, Wood Products, Paper, Paper Products

Associated Pulp and Paper Mills (Burnie, Wesley Vale, Long Reach, Triabunna). This group of companies is a wholly-owned subsidiary of North Broken Hill Holdings Ltd. It is Australia's principal producer of fine printing and writing papers, magazine papers and coated papers. In Tasmania, the company operates major manufacturing complexes at five centres:



APPM.
Photo: Tasmap
Photographics

Burnie - commenced paper production in 1938. Present annual capacity of the Burnie pulp and paper plant is 130 000 tonnes, also located at Burnie is a veneer production facility and sawmill.

Wesley Vale - (Opened 1970). An integrated pulp and paper complex. The plant has an annual capacity of about 65 000 tonnes of paper. Most production at Wesley Vale is for magazine papers. A particle board factory also operates at Wesley Vale, annual production is about 15 million square metres.

Long Reach - (Opened 1972). Woodchip plant. The company has long-term contracts for the export of woodchips to Japan.

Triabunna - APPM operates a woodchip export mill at Triabunna and also has long-term contracts with Japan.

Wynyard - sawmill operation.

Australian Newsprint Mills Ltd. (Boyer). Began operations in 1941. Newsprint capacity is now 220 000 tonnes annually. The company is jointly owned by Fletcher Challenge and News Corporation. The company also operates a



ANM newsprint mill (Boyer).

17.5 REGIONAL MANUFACTURING 1987-88 (a)

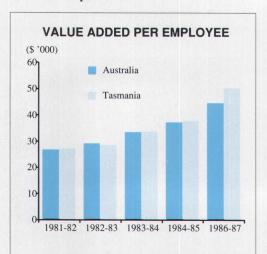
Statistical division	Employment 30 June	Turnover (\$m)
Greater Hobart	8 840	1 109
Southern	1 009	168
Northern	7 567	884
Mersey-Lyell	8 034	1 105
Tasmania	25 450	3 266

(a) Includes single establishment enterprises employing fewer than four persons.

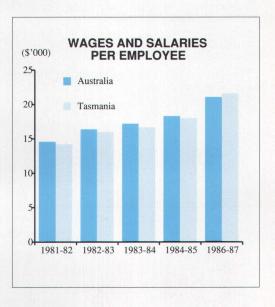
Other timber-based industries (sawn timber, veneer manufacture and furniture) account for a further 12 per cent of manufacturing employment in the Burnie-Devonport statistical subdivision.

17.4 NATIONAL COMPARISON

Over the period 1981-82 to 1986-87 (the latest year of a fully detailed manufacturing census), the Tasmanian manufacturing sector has out-performed the total Australian sector. Nationally, over the period, manufacturing employment fell by 12 per cent, while in Tasmania the fall was just under six per cent. In terms of value added per employee (at current prices) Tasmanian manufacturing registered an increase of 84 per cent, while nationally the rise was only 65 per cent. The percentage increases in total value added were: Tasmania 73 per cent and Australia 45 per cent.



Tasmanian manufacturing value added per employee in 1986-87 was \$50 830 compared with an Australian figure of \$44 920, or 13 per cent higher. Wages and salaries paid per employee in Tasmania for 1986-87 were also marginally above the Australian average - \$21 640 compared with \$21 180.



In terms of industry structure one of the more noticeable differences between Tasmanian and Australian manufacturing is the importance of the sectors based primarily on utilisation of timber resources. Nationally the wood, wood products and furniture and paper, paper products, printing and publishing sub-divisions account for around 17 per cent of the value added by manufacturing and 18 per cent of employment in manufacturing. In Tasmania these two industry sub-divisions are responsible for almost 40 per cent of value added by manufacturing and 36 per cent of employment. Another considerable difference in industry structure is the limited contribution made by the transport sector to Tasmanian manufacturing. In 1986-87 this sector contributed only two per cent to total value added and was responsible for around three per cent of manufacturing employment.

Nationally, the sub-division, which includes the motor car making industry, accounted for nine per cent of value added by manufacturing and almost 11 per cent of manufacturing employment. newsprint mill at Albury in New South Wales with an output of 180 000 tonnes per annum. ANM is Australia's only producer of newsprint and currently supplies approximately 55 per cent of Australia's requirement. The Boyer plant is being upgraded to improve environmental controls, to increase profits and long term job security.

17.1.4 Non-Metallic Mineral Products

Goliath Portland Cement Co. Ltd (Railton). This company has been involved in cement production in Tasmania since 1928. In 1980 a new plant was installed making Goliath one of the most efficient producers of cement. The company operates its own 4000 tonne ship the M.V. Goliath to transport bulk cement to mainland markets. Goliath has also been exporting palletised bagged cement to Papua New Guinea and other Pacific Island destinations since 1970. In 1989, a joint venture company owned by CSR and Pioneer took control of Goliath. The plant is now expected to be operated at its full capacity of one million tonnes per annum. Goliath also operates Besser Bricks and the Cornwall Coal Mine.



Goliath cement factory.

Photo: Tasmap Photographics

17.1.5 Basic Metal Products

Comalco Aluminium (Bell Bay) Ltd (George Town). Australia's first aluminium smelter commenced production in 1955 at Bell Bay, with an annual capacity of 12 000 tonnes of metal. In 1961, the plant and facilities were acquired by the present company and the capacity increased in stages to 117 000 tonnes per annum. Products made include rolling block, extrusion billet, foundry alloy ingot, T-bar alloy, and primary metal as ingot, T-bar, and granules. Comalco Aluminium Powder, produces aluminium powder, aluminium paste, and high alloy metal powder briquettes.

Southern Aluminium

The world's most advanced alloy wheel plant was officially opened at Bell Bay at a ceremony marked by the signing of a \$3.5 million contract with BMW. The \$50 million Southern Aluminium plant will eventually produce 600 000 alloy car wheels a year for the international car industry. The plant utilises molten aluminium from the adjoining Comalco smelter at great cost savings and is expected to earn Australia \$30 million a year in exports. The joint Australian-Japanese venture has negotiated a contract with Japanese car maker Mitsubishi and a massive \$20 million deal with Nissan. The Bell Bay factory, to employ 150 people, is a joint venture between Comalco (51 per cent), the Australian Industries Assistance Commission (19 per cent), Mitsubishi and the world's largest alloy wheel maker, Enkei (15 per cent each). The plant has also provided more jobs indirectly with a Branxholm sawmill earning an extra \$250 000 and securing 31 jobs from an order to supply pallets to Southern Aluminium.

Pasminco Metals - EZ (Risdon and Rosebery). Established in 1916, the factory at Risdon is the largest producer of zinc in Australia and the second largest electrolytic zinc plant in the world. It exports an extensive range of zinc and zinc alloys to over 30 countries. The Risdon plant has the capacity to produce more than 600 tonnes of zinc per day. Apart from the zinc and zinc alloys, the company also produces cadmium, sulphuric acid, superphosphate, and ammonium sulphate. The zinc plant supplies a large proportion of Australia's total requirements. The company has commenced a major modernisation program to be completed by 1992. In 1989 the Risdon plant received its



Pasminco Metals - EZ Risdon.

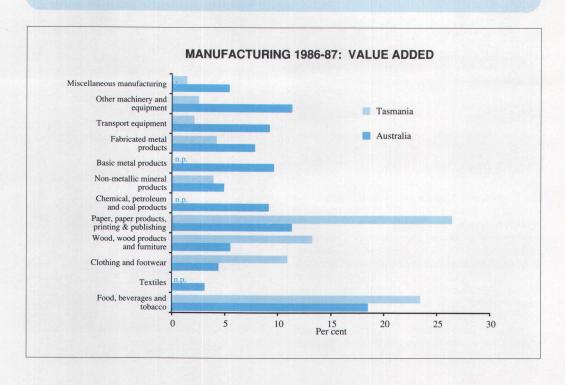
Photo: Tasmap Photographics

Nationally around 27 per cent of persons employed in the manufacturing industry are women. The proportion of women employed in manufacturing has increased by around two percentage points over the period 1981-82 to 198687. In Tasmania the proportion of women

in the manufacturing workforce is much lower than the national average. In 1986-87 the proportion was 20 per cent. However, this is three percentage points higher than the proportion in 1981-82.

17.6 COMPARISON OF TASMANIAN AND AUSTRALIAN MANUFACTURING 1986-87: PROPORTION OF TOTAL EMPLOYMENT AND VALUE ADDED (Per Cent)

	Tasman	Tasmanian		Australian	
ASIC sub-division	Employment	Value added	Employment	Value added	
Food, beverages and tobacco	22.8	23.4	16.5	18.5	
Textiles	n.p.	n.p.	3.3	3.1	
Clothing and footwear	2.7	10.9	7.2	4.4	
Wood, wood products					
and furniture	10.2	13.2	7.3	5.5	
Paper, paper products,					
printing and publishing	21.2	26.4	10.5	11.3	
Chemical, petroleum and					
coal products	n.p.	n.p.	5.3	9.1	
Non-metallic mineral products	3.5	3.9	3.9	4.9	
Basic metal products	n.p.	n.p.	7.3	9.6	
Fabricated metal products	6.5	4.2	9.4	7.8	
Fransport equipment	2.9	2.1	11.0	9.2	
Other machinery and					
equipment	3.4	2.5	12.5	11.3	
Miscellaneous manufacturing	1.8	1.4	5.9	5.4	



first load of Hellyer zinc concentrate. Mine production capacity at the company's west coast mines at Rosebery is 650 000 tonnes of silver-lead-zinc-copper-gold ore per annum. The associated concentrating mill at Rosebery has capacity to treat 850 000 tonnes of ore per annum including treatment of ore from the Que River Mine.

Tasmanian Electro-Metallurgical Co. Pty Ltd (Bell Bay). In 1962 BHP transferred its major alloy making from Newcastle to Bell Bay. Expansion in 1976 gave export capacity and added ferro-silicon and manganese ore sinter to the existing product range of high carbon ferro-manganese and silico-manganese. A significant proportion of production is being exported to steelmakers and foundries in South-East Asia, the Middle East, Japan, United States of America and New Zealand. The company completed a \$57 million capital works program in 1987 to increase output by 40 per cent.

Tioxide Australia Pty Ltd (Burnie). This company is a manufacturer of titanium pigments which are used as the base white pigment in paints, enamels, plastics, printing inks, rubber, paper, man-made fibres and a number of other products. Ten different grades of pigment are made to meet the varying requirements of user industries. The company which was formed in 1937 as Australian Titan Products Pty Ltd, has recently undergone a \$23 million capital works program increasing production to 52 500 tonnes per annum. Tioxide is the predominant supplier of titanium pigments to the Australian market and an increasingly significant supplier to South-East Asian countries.

17.1.6 Fabricated Metal Products

Humes Ltd (Statewide). The company operates three divisions in Tasmania: Humes Concrete, producing pre-cast concrete; Humes Plastics, manufacturing UPVC and high-density polythene pipes and fittings for a wide range of uses; and Humes-ARC, producing prefabricated reinforcement mesh and rod.

ACL Bearing Company (Launceston). Established in 1949 to manufacture engine bearings for the Australian spare parts trade, the factory has since expanded and diversified its range of products and is now the only automotive bearing manufacturing company in Australia. The company also undertakes the manufacture of sintered products using powder metallurgy techniques.

Tristeel Engineering Pty Ltd. Tristeel emerged as a result of the management buy-out of the Steel Mains operation in 1986. Tristeel now produces pressure vessels, spheres, bulk storage tanks etc. A field crew operates throughout the State installing all types of structural steel, pipelines and mechanical items.

17.1.7 Transport Equipment

International Catamarans Ptv (Hobart). International Catamarans specialises in commercial aluminium catamarans. The craft are mainly used as passenger ferries, although utility vessels such as oil rig tenders, light defence and patrol craft are also in service. The success of the design led to licensing of yards in other States, and in Asia, as well as the sale and exchange of related technology in Europe and North America. Local production extended to larger, higher quality vessels for export, including two 470-passenger ferries for the UK market. The local workforce includes full-time sub-contractors and apprentices. Hobart is seen as an ideal base from which developments can be tested and improved.

In July 1989 International Catamarans opened a new boatyard at Prince of Wales Bay in Hobart. The facility is large enough for three large catamarans to be built simultaneously. Senator Button who officially opened the boatyard also handed over a cheque for \$1.5 million to the company as a progress payment under the new shipbuilding bounty arrangements. The new arrangements started on 1 July 1989 and International Catamarans was the first recipient of funds under the industry assistance measure.

Ansair Kingston is owned by Ansett Transport Industries. Ansair has a bus plant at Kingston, manufacturing bus bodies and components. In 1989 the company won a Government two year contract to produce 49 buses for \$9 million. The Company is looking to win contracts to supply a new mini-bus design for New Zealand and interstate markets.

Tamar Steel Boats (Launceston). Now part of the Sea Management Corporation, Tamar Steel Boats builds ferries for local and overseas markets. The Company recently won a \$6 million contract to build a 400 passenger ferry for Bruny Island. Completed ferries include two 83-tonne, 25-metre craft, one bound for Scotland, the other for Sydney Harbour.

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Chapter 18

HOUSING AND CONSTRUCTION

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Chapter 18

HOUSING AND CONSTRUCTION

Housing and construction provide useful social records of a community's structure, wealth and aesthetic values. The extent to which a community provides sufficient housing for its members, and the adequacy and style of the housing it does provide are important indicators about the underlying values that shape and govern the community. It also provides important economic data.

The wider construction industry which includes in addition to building houses and other structures the construction of roads, bridges, wharves, dams, airports etc. employs around six per cent of the State's employed persons and contributes about seven per cent of the State's gross product at factor cost. Wages and salaries paid by the industry are just over seven per cent of the estimated total wages and salaries paid by all industries in Tasmania. Its contribution to State gross product is around 40 per cent of the contribution made by manufacturing and around 15 per cent more than the contribution made by agriculture.

18.1 HOUSING

Tasmanians, as do other Australians, place great importance upon home ownership. The 1986 Census revealed that 71 per cent of Tasmanian households had either bought, or were in the process of buying, their own home. This compares with a figure of 63 per cent in Britain, 73 per cent in New Zealand and 52 per cent in Sweden.

Within Tasmania, municipalities with the highest proportions of owner-occupied dwellings include Beaconsfield with 85 per cent, Huon with 84 per cent and Sorell with 83



In July 1989 International Catamarans opened a new boatyard at Prince of Wales Bay in Hobart. The facility is large enough for three large catamarans to be built simultaneously.

Photo: Mercury

per cent. Municipalities with the lowest proportions were Waratah with 10 per cent, Zeehan with 32 per cent and Brighton with 41 per cent.

18.1.1 Housing Trends, 1930-1989

Prior to the Second World War the typical Tasmanian family lived in a single-storey weather-board home consisting of five or six rooms, and situated on about a quarter-acre of land (1000 square metres).

This style continued relatively unchanged until the 1950s and 1960s when substantial changes in building techniques and architectural style occurred. The traditional timber-clad weatherboard home gradually gave way to a building with brick or brick veneer exterior walls. In 1954-55, 75 per cent of all houses commenced were of weatherboard construction; twenty years later in 1974-75, this figure had dropped to five per cent.

Architecturally, this period saw the beginnings of a trend in urban areas towards the flat, apartment or 'home unit' in a block of such dwellings arranged in a courtyard or terrace fashion.

The 1970s brought further changes in lifestyles and housing patterns. Increased affluence, mobility and leisure time enabled many people to experiment with rural-residential living. This period saw the growth of a new feature, the 'five-acre block' situated within an hour's drive or less of a major population centre.

More recently Tasmania has shared in the world-wide fashion for the renovation of nineteenth century urban architecture for domestic use. As much of Tasmania's long-neglected domestic architectural heritage is of this period, the State has benefited greatly from this revitalisation of its Georgian and early Victorian buildings.



Nineteenth century houses, Battery Point.

18.1.2 Housing Stock

At 30 June 1989, Tasmanian residential dwelling stock totalled 178 119 homes, flats and

units. This figure represents a 5.9 per cent increase in dwelling stock from the 1986 Census, which showed the State to have had 168 270 dwellings of all types.

Over recent years private residential approvals have outnumbered government (public) residential approvals by a factor of 5 to 1. In terms of value the factor has been 6 to 1.

18.1 NUMBER OF DWELLING APPROVALS, TASMANIA

Year	Private		Public	
	Houses	Other	Houses	Other
1983-84	2 554	433	354	336
1984-85	2 945	770	470	185
1985-86	2 648	818	372	270
1986-87	2 349	758	298	233
1987-88	2 395	672	277	154
1988-89	2 684	864	206	160

In terms of dwelling units approved, a fall in levels started in the latter part of 1986 and continued through to October 1987. The trend estimates dropped from a level of around 320 per month in mid 1986 down to a low of 271 in September-October 1987. From that point there was sustained growth back to the 320 to 330 dwelling unit approval level towards the end of 1988.

The trend then tends to flatten out for the first months of 1989 and towards mid 1989 was showing indications of starting to fall. The flattening in growth and indicators of fall in the number of dwelling approvals was a reflection of higher interest rates, which reached the 17 to 17.5 per cent level in the latter part of 1989, and general uncertainty about economic conditions.

In 1988-89, 34 per cent of all houses approved were in the Greater Hobart Statistical Division in which 40 per cent of the State's population live. A further 20 per cent of houses approved were in the Greater Launceston Statistical Sub-division and in the Burnie-Devonport Statistical Sub-division a further 15 per cent were approved. (These two areas contain 20 per cent and 17 per cent of the State's population respectively.)

In terms of other residential buildings (flats, apartments, etc.) just under 40 per cent of approvals were in the Greater Hobart Statistical Division, 31 per cent in the Greater Launceston Statistical Sub-division and 19 per cent in the Burnie-Devonport Statistical Sub-division.

18.2 RESIDENTIAL DWELLING APPROVALS

Region	1987-88	1988-89
Greater Hobart Statistical Division	1 339	1 388
Southern Statistical Division	462	478
Greater Launceston Statistical		
Sub-division	634	916
Central North Statistical	170	150
Sub-division North-Eastern Statistical	173	152
Sub-division	152	177
Northern Statistical Division	959	1 245
Burnie-Devonport Statistical		
Sub-division	539	610
North-Western Rural Statistical	100	100
Sub-division	180	190
Western Statistical Sub-division	19	3
Mersey-Lyell Statistical Division	738	803
Tasmania	3 498	3 914

18.1.3 Home Ownership

With more than two-thirds of dwellings in Tasmania owned or being purchased by their occupants, home ownership continues to be the desired aim of most Tasmanians. Figures derived from the 1986 Census of population show that 39.1 per cent of occupied private dwellings in Tasmania were owned by the occupants and a further 32 per cent were being purchased. When compared with figures from the 1981 Census, home ownership has increased.

18.1.4 Public Housing

Public housing plays a key role in the provision of housing to social disadvantaged groups such as low income families, single parent fami-

18.3 HOME OWNERSHIP, TASMANIA

Dwellings	1981		1986	
	Number	%	Number	%
Owned	47 928	35.4	58 157 (a)	39.1
Being				
purchased	44 977	33.2	47 588	32.0
Rented	33 909	25.0	36 747	24.7
Other	8 784	6.5	6 307	4.2
Total	135 598	100.0	148 799	100.0

(a) Includes 3188 dwellings where ownership and purchasing was not distinguished on the Census return.

lies and aged pensioners. The Housing Department has moved away from the broad-acre approach towards urban infilling. In its role of providing housing for the less well-off members of the community the department encourages home ownership. Opportunities are made available to persons to purchase dwellings built by the department on financial terms that are affordable.

Over recent years elderly person units have been a significant part of the department's construction program. (With the increasing



New house being constructed.

Photo: Mercury

proportion of the population in the 'elderly' age group, particularly the very old, this type of construction activity is likely to remain an important part of the public housing program.)

During 1987-88 the department completed 539 dwellings and purchased 71. Just over 40 per cent of the dwellings completed were in the Greater Hobart Region and a further 35 per cent were in the Burnie-Devonport Statistical Subdivision. To carry out the program the department had available \$64.3 million. Thirty per cent of the funds (\$19.4 million) were from the Federal Government.

In 1988-89 almost 47 per cent of the public sector house approvals were in the Greater Hobart Statistical Division with a further 21 per cent in the Greater Launceston Statistical Subdivision and 23 per cent in the Burnie-Devonport Statistical Sub-division. The areas outside the main urban groupings had only nine per cent of public sector house approvals; they contain in order of 22 per cent of the State's population.

18.1.5 Home Finance

During 1988-89 major lenders (banks, building societies and other financial institutions) made secured financial commitments for home purchases or building of \$373 million. Trading banks were responsible for 77 per cent of the commitments made and saving banks for a further five per cent. Most of the balance was from permanent building societies. The total secured financial commitments made in 1988-89 was three per cent above the 1987-88 level.

The average amount per commitment in 1988-89 was \$41 000. (This was less than half the average commitment level for New South Wales, \$87 000 and around 60 per cent of the Victorian average of \$69 000.) Average commitments in Tasmania in 1988-89 were five per cent above 1987-88 levels and almost 11 per cent above the average levels for 1986-87. For Hobart the monthly median price of houses sold rose from around the \$65 000 to \$70 000 level in 1987 to around \$80 000 to \$85 000 in 1989

18.4 SECURED HOUSING FINANCE COMMITMENTS, TASMANIA

Year	Number of dwelling units	\$m
1986-87	6 706	248.2
1987-88	8 686	338.8
1988-89	8 909	373.1

Huntingfield Estate: a new concept in housing developments.*

In 1989 the first of an expected 3700 new houses started appearing on the Huntingfield Estate sub-division in the Kingborough Municipality.

The estate, which will be the most important residential development to happen in Kingborough, is located on 425 hectares of land acquired by the Housing Department in 1972.

The sub-division development has been broken down into three separate phases. The first phase, pioneering, providing 700 houses, should be finished in 1993 and will provide sufficient population for the second phase, town development, to begin.

This will include the building of a primary school, shopping facilities and 1300 houses. It should be completed in 1999.

The final phase, consolidation, should see 1700 new houses completed by the year 2008.

Huntingfield will offer a variety of lot sizes from 300 square metres to one acre; a road structure serving quiet streets with provision for pedestrians and cyclists; and parks, shops, school and community facilities.

According to a recognised planning consultant firm, the land was identified as being the major area for future residential development in the municipality.

A 1970 Housing Department report on the Huntingfield Estate, stated that Kingborough was receiving 10 per cent of new housing growth in the Hobart area. In 1985 the figure had risen to 25 per cent. The report said this should increase as a result of extensive main road works in the municipality.

A general structural plan has been designed for Huntingfield, but the report said this was only a broad framework for development. The quality of the development would depend on the treatment of planning, landscape and architectural details. The Housing Department intends to aim for excellence in this area.

*This article was taken from the Mercury.

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18.5 I YPES	OF PRIVATE DWELL	LINGS. TASMANIA. 1986

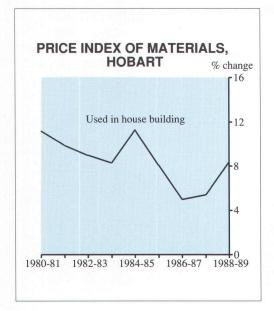
	Occupied	Unoccupied	Total
Separate house	127 347	16 058	143 405
Semi-detached house	2 141	237	2 378
Terrace house	840	129	969
Medium density (a)	14 539	1 654	16 193
Other	3 932	1 392	5 324
Total	148 799	19 470	168 269

⁽a) Flats, home units, etc. up to and including three storeys.

The large majority of the number of new financial commitments entered into are for the purchase of established dwellings - almost 80 per cent in 1988-89. A further 16 per cent were for the construction of new homes. Only three per cent of the number of new secured financial commitments were for dwelling units other than houses.

18.1.6 Costs of House Building Materials

Although the prices of materials used in house building in Hobart have risen during the last three years, the increases are less than the national average but are above the increase in the Consumer Price Index (CPI) for two of the past three years.



18.6 PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING AND CONSUMER PRICE INDEX (CPI): CHANGE FROM PREVIOUS YEAR (%)

	Price index of materials used in house building			
Year	Hobart	Weighted average of six State capital cities	c CPI all groups Hobart	
1986-87	+ 5.0	+ 5.8	+ 9.9	
1987-88	+ 5.4	+7.6	+7.4	
1988-89	+ 8.4	+ 10.8	+6.3	

18.2 CONSTRUCTION

The total value of construction for the 1988-89 financial year was just under \$773 million. In real terms there has been only a small increase over the past three years, in both the building and the engineering sectors.

18.2.1 Building Construction

Total building work done in 1988-89 was valued at \$464.5 million which was a 19.5 per cent increase on the value of building the previous year. The increase was spread across residential, alterations to residential building and non-residential building.

The total value of monthly building approvals for Tasmania started at \$19.3 million in January and peaked at \$45.3 million in October. Total value of building during the year was \$415.5 million at an average of \$34.6 million per month.

DERWENT ENTERTAINMENT CENTRE*

The Derwent Entertainment Centre, located on a picturesque waterfront site at Wilkinsons Point on the western bank of the Derwent River just five kilometres from the centre of Hobart, is one of Australia's premier sporting and entertainment facilities.

The centre has been specifically designed to accommodate every type of function from exhibitions to indoor sports, conventions to rock concerts, circuses and chamber music.

Jointly funded by the State Government (\$9.0 million), the Glenorchy City Council (\$2.44 million) and the Federal Government (\$1.35 million), it was originally conceived as a Bicentennial Project.

Concept

Following preliminary documentation and working drawings, construction commenced on site on 4 November 1987. Final detail documents were completed on 31 March 1988 and construction was completed on 10 March 1989, the original tendered date for completion.

Blythe Yeung and Menzies in association with Peter Hunt were responsible, with their

engineering consultants, for the total design concept and documentation. Fricker Developments, in the role of Project Managers, were responsible for liaison between the designers, the builder, the Department of Construction Tasmania, the Glenorchy City Council and the client. Hansen Yuncken (Tasmania) Pty Ltd, as the builders, were responsible for the construction of the works (in association with their various trade contractors and suppliers), together with the cost control and the sequence programming and performance.

The construction works on site employed at its peak in excess of 100 persons with as many off-site preparing special pre-fabricated components for the \$11 million project.

Design

The design of the Derwent Entertainment Centre was based on the requirements of a multi-disciplinary complex. It had to be adaptable to serve a wide range of popular entertainment styles and formats including commercial sporting presentations.

Essentially the layout focuses on the 2100 square metres of arena floor space. Encircling the arena in an amphitheatre arrangement are



stepped seating platts along with two sets of retractable seating providing seating for 5000 spectators. Further seating can be provided for 1000 persons using stackable seats.

Looking towards the stage, an acoustic block wall 60 metres long with a maximum height of 22 metres separates the arena from the backstage area. The backstage area provides a huge space for equipment storage as well as containing dressing rooms, change rooms, workshops and plant rooms.

Surrounding the front of the arena are the main and general entry foyers. These provide waiting areas and access to seating, the reception area, public bar, a 500-seat theatre style hall overlooking the river and five seminar rooms. These foyers incorporate public services, including concessions and toilets as well as an administration area. The 1200 square metres of foyer area has been designed so that it can be divided into three separate areas for product launches or functions.

Construction

The design of the Derwent Entertainment Centre required structural steel, rectangular box trusses to span up to 50 metres. Two 36 metre high columns extending past the roof help support the trusses as well as anchor the building through a series of tension stays and anchor blocks.

The seating arrangement has been achieved by positioning individual precast platts over raking steel beams.

The arena concrete slabs have been cast to achieve fine tolerances so that a true surface is provided for the centre's various sports and entertainment modes.

The height from the surface of the arena to the top of the roof structure exceeds 22 metres.

External Cladding

External cladding consists essentially of a 'K-Clad' roofing system combined with fibre cement sheet and Besser blocks. Large semicircular gutters 1.2 metres wide and approximately 32 metres long are positioned around the building to catch the volume of rain water run-off generated by the sloping roof.

Incorporated within the structure are many acoustic features such as perforated fibre cement sheets, acoustic blocks and acoustic doors, all of which are intended to enhance the sound characteristics of the building.

A nine millimetre compressed sheet light-weight facade system was selected by the architects as the feature external cladding. The compressed sheet has a high degree of dimensional stability. It won't rot, is unaffected by termites, will not burn, is immune to water damage, does not corrode and is not affected by salt air, sunlight or air pollution. Building elements having a high airborne sound transmission loss can also be constructed from compressed sheet. With such a formidable list of physical properties it's hardly surprising that this single building product can be found in everything from bathroom floors to building facades.

In the Derwent Entertainment Centre situation, all cladding panels were documented to form an expressed 10 millimetre wide shadowline gap detail between adjacent panels.

Different colours in the coatings were utilised to provide a banded effect to the exterior of the building.

Internally, compressed sheet was used for toilet partitions while perforated fibre cement sheets were applied extensively in areas such as the foyers to provide aesthetic appeal.

Curved Roof

Due to the curvature of the roof shapes, where one section of roofing was a quarter of a circle in elevation on a 15 metre radius, KH-Stramit Ltd and their fixer, Calvin Radcliffe, worked to set safety standards using life lines and other safety aids including commencing work at 6 a.m. to enable them to fix the roof sheeting before the sea breeze came in.

There were 125 lengths of Off White 'K-Clad' in excess of 25 metres and lengths of 17 to 18 metres were quite common.

*This article was taken from the Tasmanian Building Journal, April 1989.

Housing Construction

Work on residential building (building new houses, flate etc. or alterations to them) accounts for around 50 per cent of total building work done in Tasmania. Over the five year period 1983-84 to 1988-89 the average value of houses approved increased by 62 per cent for the private sector and by 55 per cent for public sector housing. (The price index for materials used in building increased by 41 per cent from June 1984 to June 1989.)

Housing activity levels and prices in Tasmania increased at a slower rate than in other States. This may be due to the fact that events and circumstances are slower to reach Tasmania and with a lesser economic effect

During 1988 home buyers and home builders were faced with high interest rates. These high interest rates will inevitably have an effect on home building levels.

Commercial Construction

During 1988, while the private housing sector showed a gradual increase in activity, the commercial building sector in Tasmania showed a steady level of activity. Non-residential private

Housing Construction Trends*

Due to the rapid escalation in cost of land and materials, home ownership is becoming increasingly expensive, forcing many first home buyers to accept minimum standards of sizes and equipment in their new homes.

Families without children, single parent families and older couples as well as single persons buy or rent two bedroom units or town houses, thereby making old stock available for larger families. Prices for new homes have been on a par with existing stock, causing more people to opt for a new house during 1988, a year of increased activity in the Tasmanian housing market.

Rumpus rooms have virtually disappeared from the 'menu' and have been replaced by family rooms, patios, balconies and other outdoor activity areas as well as carports and/or garages.

In the larger new houses more attention has been given to bathrooms, including spa baths, and to the kitchen with up to date appliances and walk-in pantries.

The use of concrete floors in lieu of timber has increased as has the use of colorbond metal cladding on the roofs. More and more builders are using gangnail roof trusses because of their reduced weight, ease of handling and stability. A mixture of masonry and other forms of cladding on houses has gained popularity amongst designers and end buyers.

Tasmania is following a national trend where home owners elect to alter or extend their house rather than move to another house. This market and trend is continuing to expand particularly with renovations of kitchens and bathrooms. People become increasingly aware of the benefits of modern day fitments and appliances and will re-decorate and renew an entire kitchen to install for example a dishwasher and/or microwave oven.

It is generally perceived to be a good investment as it will increase the value of the existing property provided it is done sensibly.

18.7 NUMBER OF NEW HOUSES APPROVED BY MATERIAL OF OUTER WALLS, TASMANIA

		1988-89
152	98	130
2 016	2 048	2 248
93	37	54
332	404	374
54	85	84
2 647	2 672	2 890
	2 016 93 332 54	2 016 2 048 93 37 332 404 54 85

*This article was contributed by Laver Pty Ltd. sector approvals over the past five years, on average, have accounted for around 60 per cent of the value of non-residential approvals. However, this proportion fluctuates considerably due to the impact of major projects - in 1988-89 the private sector accounted for over 70 per cent of non-residential approvals whereas in 1986-87 the proportion was only 48 per cent.

The comparatively large increase in the value of building for the entertainment and recreation category is attributable to the construction of the Derwent Entertainment Centre at Glenorchy.

The State Government continued to provide funds for building and construction with many capital works projects continuing or starting. Federal Government funding of building projects was minimal.

Major non-residential projects approved during 1988-89 included: education facilities at Claremont (approval value \$10 million); the Derwent Entertainment Centre (\$9.8 million); a theatre complex in Collins Street, Hobart (\$8 million); several office blocks in Hobart (one of

18.8 VALUE OF WORK DONE, TASMANIA (\$m)

Type of building	1986-87	1987-88	1988-89
New houses	136.1	141.4	162.6
Other new resider		20.6	16.6
buildings	39.7	32.6	46.6
Total new reside	ential		
buildings	175.8	174.0	209.2
A16			
Alterations and ac	- CALLO TAG		
to residential b	ouilding 18.8	20.2	27.1
Hotels etc.	32.1	21.9	23.2
Shops	26.7	22.1	10.9
Factories	16.3	21.7	24.8
Offices	35.6	23.9	48.1
Other business pro		21.7	22.3
Educational	22.2	31.2	36.7
Religious	1.9	1.6	1.9
Health	13.1	36.1	24.7
Entertainment and	d		
recreational	11.8	4.8	20.1
Miscellaneous	14.4	9.6	15.4
T			
Total non-reside			
building	182.7	194.4	228.2
Total all build	ing 377.2	200 7	1615
Total all build	ing 377.2	388.7	464.5

\$8 million, a second for \$6.5 million and one of \$4 million); a new furnace building at Bell Bay (\$7.8 million); and a police headquarters building (\$5.3 million).

There was a continual redevelopment of the Launceston General Hospital and continued modernization at the Pasminco-EZ plant. The Stock Exchange building in Hobart, the \$23 million Telecom Centre in Hobart and the new Launceston International Hotel were completed.

An area of concern is the shortage of trained and qualified tradespersons amongst the building sector. It is hoped that a further increase in work will provide opportunities for builders to overcome this problem by training more apprentices.

18.2.2 Engineering Construction

The major component of engineering construction continues to be roads, highways and sub-divisions, although the relative proportions of the categories has remained much the same over the past three years.

Construction of works such as dams, roads, bridges, airports and wharves is around 70 per cent of the value of work done on house and

18.9 ENGINEERING CONSTRUCTION, VALUE OF WORK DONE, TASMANIA (\$m)

Project	1986-87	1987-88	1988-89
Roads, highways, and			
sub-divisions	88.5	82.4	100.4
Bridges	8.1	5.5	11.6
Railways		0.7	
Harbours	3.4	5.0	4.4
Waterstorage			
and supply (a)	8.4	5.6	42.9
Sewerage and			
drainage	11.9	9.1	8.3
Electricity generation,			
transmission and			
distribution (a)	101.5	99.5	54.3
Pipelines	0.3	0.2	-
Recreation	5.1	6.4	4.6
Heavy industry	28.0	21.6	45.2
Telecommunications	37.0	32.4	35.8
Other	1.0	0.5	0.9
Total	293.1	268.9	308.3

⁽a) From 1988-89 there were changes in reporting by the Hydro-Electric Commission.

other building in Tasmania. During 1988-89 just over 70 per cent of the value of work done on engineering construction projects was government or government agency works. The main works in the government area were roads and highways, water supply and storage, telecommunications and electricity generation and transmission. Private engineering construction works were dominated by works for heavy industry, roads and sub-division projects.

18.10 TOTAL VALUE OF CONSTRUC-TION, TASMANIA (\$m)

Year	Building	Engineering	Total
1986-87	377.2	293.1	670.3
1987-88	388.7	268.9	657.6
1988-89	464.5	308.3	772.8

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Chapter 19

TRANSPORT AND COMMUNICATIONS

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Chapter 19

TRANSPORT and COMMUNICATIONS

Although Tasmania has not seen revolutionary changes in transport technology such as proposals for ultra high-speed trains or suburban monorail systems that have been evident in other States, innovations and improvements have never-the-less taken place. With moves to establish a high speed catamaran service across Bass Strait well underway, and the State's communications network enhanced by a new optical cable link, Tasmania's infrastructure has kept pace with the rest of Australia consistent with its needs.

19.1 TRANSPORT

Almost every sector of the community relies on the transport industry. Without road, water, air and rail transport the lifestyle and conveniences that we take for granted would not be possible.

19.1.1 Roads

New Road Works

The financial year 1988-89 was noteworthy for the completion of several major projects in the North-West. The Bass Highway duplication between Don Hill and Ulverstone was finished and opened in March 1989. The project, which started in 1984, comprised the duplication of 10 kilometres of road at a cost of \$21 million. Also included was the construction of a new bridge over the Forth River, a five span structure costing \$1.5 million.

Two link roads were completed, the Guildford to Hampshire Link Road and the Que River to Learys Corner Link Road. It is hoped these roads will provide a boost both from a tourism point of view and in terms of the general



Trams were a common form of transport in Hobart in 1954. Little damage was done in this accident when one tram switched onto a junction line and collided with another.

Photo: Mercury

economic viability of the region. The Guilford to Hampshire link was opened on 5 May 1989 and offers an alternative route to the West Coast which bypasses the Hellyer Gorge section of the Murchison Highway. The new route, constructed at a total cost of \$15.3 million, will cut 10.5 kilometres off the existing route, but will also have considerable road safety benefits, particularly in severe weather conditions.

The Que River to Learys Corner Link Road connects the Cradle Mountain Tourist Road with the Murchison Highway at Learys Corner. Construction began in November 1984 and was completed at a cost of \$17.5 million. This road, which was also opened on 5 May 1989, has shortened the travelling distance between Devonport and the West Coast by 41 kilometres. The principal role of the new road will be tourism-based but it is also expected to have an effect on general transport.

Another significant project in the Southern region was the completion of the Southern Outlet Highway Stage 2 duplication. This section, which continued the duplication of the highway for 1.9 kilometres, extends from Proctors Road Underpass to Shaw Road Underpass. This project was officially opened on 19 December 1988.

The final stage of the Tasman Highway Davey Street Extension was finished with the completion of the Davies Avenue interchange on the Queen's Domain. This project was constructed in just over two years. The aim of the construction was to provide improved access to Hobart's southern and western suburbs and southern parts of the State, while retaining historic buildings around the waterfront. The underpass to the Domain was constructed in such a manner as to minimise the disruption to the consistent traffic flow from the Tasman Bridge, and it allows improved access to the increasing recreational facilities on the Domain for vehicles coming from the Eastern Shore. Previously it was necessary for these vehicles to drive to the Railway Roundabout and approach from the other direction.

19.1 MOTOR VEHICLES ON REGISTER TASMANIA (a)

Year	Number of vehicles on register ('000)	Vehicles per 1000 of population (no.)
1910	0.4	2
1920	4.1	20
1930	19.5	89
1940	26.2	109
1950	43.2	156
1960	93.2	271
1970	154.3	398
1980	229.5	542
1989	284.4	631

(a) At 30 June

In the North, developments to Launceston's Southern Outlet over recent years have given much improved access to the northern centre. Final landscaping and minor works were carried out in connection with the Glen Dhu Corridor. An important further development is the Kings Meadows Connector, which will link the Southern Outlet with Hobart Road at Kings Meadows.

One of the Federal Government's road initiatives in 1988-89 was the creation of a new category of roads called national arterials. National arterials will complement the national highway system by improving access to ports, airports, railheads and areas of major production and tourism. The National Highway system is being substantially upgraded in the North of the State with the construction of the Deloraine bypass. This is expected to make a significant contribution to road safety in a section of the road that has been associated with a number of fatal accidents over the years.

Motor Vehicles

Motor vehicle registrations have grown steadily both in the number of vehicles registered and also in terms of vehicles registered for every 1000 people.

At 30 June 1989 Tasmania had the highest rate of vehicle ownership in Australia.

19.2 MOTOR VEHICLES REGISTERED, AUSTRALIAN STATES, 1989

State	Number of vehicles on register ('000)	Vehicles per 1000 of population (no.)
NSW	3 069.6	533
Vic.	2 517.1	583
Qld	1 627.0	575
SA	832.5	585
WA	950.0	597
Tas.	278.3	617
Australia	9 489.5	565

Road Traffic Accidents

In 1989 there were 80 people killed and 1997 people injured on Tasmanian roads, slightly more than in the previous two years. Alcohol was a contributing factor in 40 per cent of

Innovative Use of Traffic Accident Statistics Helps Police Combat Road Toll *

On selected urban and rural road sections in many parts of Tasmania, police are now carrying out a new form of traffic enforcement, termed Offence Deterrence Operations. Their aim is to extend more widely an approach which has been scientifically shown to reduce serious accidents on roads by up to 90 per cent. Because of the scale of the accident reductions achieved, programs modelled on the Tasmanian approach were established in Victoria and New Zealand only months after the results of the program were first published in 1988.

Currently almost 30 000 Australians are admitted to hospital and approximately 2900 die each year as a result of traffic accidents. The Bureau of Transport and Communications Economics has estimated that road accidents cost Australia \$5690 million, or over \$1000 for each Australian household, in 1987. Road accidents are the single largest cause of death of all Australians under 45 years of age.

Because of the scale of the traffic safety problem, innovative methods of accident prevention are constantly being sought. This fact was the impetus for the development of the Offence Deterrence Program. The approach of the program is to use computer-generated randomised deployment schedules to enable each police man-hour on patrol to produce a deterrence 'spread-of-effect' over an area up to ten times greater than that of previous methods. The patrols involve the use of stationary, clearly visible, marked vehicles. The accident-reduction effect is achieved primarily through deterrence of offences rather than punishing offending motorists by collecting fines.

The Accident Research Group's computerised accident database is used both to indicate areas requiring enforcement and to assess the level of accident reduction achieved. The assessments have shown that the method typically reduces accidents by 60 per cent on rural roads, and up to 90 per cent in built-up areas.

In the traffic safety area, such evaluation methodology has become relatively well established in the road engineering field. Costbenefit-based evaluation methods in road engineering have led to major safety improvements, especially over the last twenty years. In general the situation has been different in the area of police traffic control. Australia-wide, around \$100 million per year is budgeted for

police traffic enforcement. Yet few methods of evaluation are in use in Australia for the detailed measurement of the effectiveness of basic patrol operations. Even for random breath testing, evaluations have generally been only at a jurisdiction-wide level, and the relative effects of publicity and enforcement have not been quantifiable. Overall, few documented cases exist from anywhere in the world of long-term, systematic programs for the improvement of the efficiency of police traffic control operations at patrol level.

The offence deterrence approach achieves accident reductions because, over time, motorists learn that a stretch of road is likely to be policed. But, as the policing timetable and vehicle positioning is strictly random, they cannot predict exactly when and where the policing will occur. For this reason, they learn to drive within the road rules over the entire route for which Offence Deterrence Operations have been programmed.

Based on the positive results of the evaluation of the initial trial programs, further programs have been systematically introduced in Tasmania - all with continuous evaluation intrinsic to their operation.

* by Dr Mark Leggett Manager, Accident Research Group Department of Roads and Transport

19.3	ROAD	ACCIDENTS,	TASMANIA,
		1989	

Year	Accidents involving	Number of persons	
	casualties	Killed	Injured
1984	1 445	84	2 015
1985	1 495	78	2 070
1986	1 468	91	2 060
1987	1 407	77	1 959
1988	1 457	75	1 925
1989	1 482	80	1 997

deaths and 20 per cent of injuries. Fifty-four per cent of the 80 killed and 52 per cent of the 1997 injured were under 25 years of age.

Bus Services

1988-89 was the first full year in which the Metrofare ticket system has operated. The system has provided more detailed statistics such as the identification of lowly patronised routes. It is planned to use smaller buses on these routes in order to reduce costs. Two MAN 'midi' buses have been ordered for trialling in Hobart and Launceston.

19.4 MTT PASSENGER JOURNEYS, TASMANIA ('000)

1985-86	13 322
1986-87	12 875
1987-88	13 213
1988-89	12 783

The use of pre-paid tickets has been promoted in order to increase revenue efficiencies and to reduce passenger waiting time. Twenty-six per cent of all passengers used pre-paid tickets after the first full year of operation.

MTT patronage has shown some decrease in recent years. The relative cost of private motoring may have had some effect on passenger numbers. Despite increases in the Consumer Price Index the average price per litre of super grade petrol actually decreased in recent years, from an average 63.4 cents in 1986-87 to 62.5 cents in 1988-89, making use of private transport more attractive.

19.5 MTT OPERATING STATISTICS, 1988-89

Passenger journeys -	
Hobart	9 677 000
Launceston	2 349 000
Burnie	757 000
Vehicle kilometres	9 689 000
Revenue (\$)	9 023 000
Expenditure (\$)	24 575 000
Employment -	
Hobart	418
Launceston	101
Burnie	28

19.1.2 Water

With the introduction of the *Princess of Tasmania* onto the Devonport to Melbourne route in 1959 Bass Strait shipping entered a new era. Despite this quantum leap in shipping technology, however, a degree of stagnation had entered the industry by the early 1980s. Three long established lines were operating nine ships. There was limited direct competition and cargo handling techniques were inefficient. The 1980s have been a watershed. Increased competition has occurred as new operators have entered the market. Efficiency has improved with new techniques being introduced and most importantly the cost of shipping a container across Bass Strait has been reduced dramatically.

Until 1985 Tasmanian services were dominated by the Australian National Line (ANL) and Union Bulkships. ANL served the Northern ports, Burnie, Devonport and Launceston while Union served Hobart. Both companies ran services to Melbourne and to Sydney and ANL ran to Brisbane and the North Queensland ports. ANL and Union had operated this pattern of services since the introduction of containerised roll-on roll-off freight services in the mid 1960s.

In the early 1980s ANL had a fleet of six ships, the three 'trader' vessels (Sydney, Brisbane and Townsville Traders built in the late 1960s) the larger and more modem Bass and Melbourne Trader (based on a standard European design built in 1975 and 1976 respectively) and the passenger ferry Empress of Australia. Until 1982 Union had used two large gas turbine powered ships and when these became uneconomic they introduced the Seaway Hobart and the Seaway Melbourne which are

sister ships to the *Melbourne Trader*. All these vessels carry containers which are loaded onto the ship by fork lifts. This has been dubbed the STO-RO system.

In 1984 ANL began to rationalise its shipping services and withdrew from Queensland. In Tasmania it ceased cargo services from Devonport and in 1985 withdrew the *Empress of Australia*. This year saw massive changes to Bass Strait shipping. The Tasmanian Government's TT-Line took on the Melbourne-Devonport passenger/cargo service with its 19 000 tonne *Abel Tasman* recently imported from Germany. At the same time Brambles introduced the 'Mercandian' class vessel *Challenger B* on a three times weekly service between Burnie and Melbourne.

These two new entrants not only provided a degree of competition in Bass Strait shipping but also introduced new technology cargo handling arrangements. TT-Line brought back the use of road trailers as the cargo carrying unit in line with the latest European short sea practice. (It had been tried in the early 1960s by ANL.) Brambles used containers but loaded them onto the ship using MAFI trailers. These are low rigid trailers with only one axle capable of carrying four containers at a time and are loaded prior to the arrival of the ship.



Abel Tasman.

Photo: TT-Line

When the ship arrives in port the MAFI trailers on the ship are towed off and the previously loaded MAFIs ashore are towed on. This greatly speeds up cargo handling rates compared to the STO-RO system and also uses less shore labour.

Following the withdrawal of its Queensland services ANL progressively phased out its 'Trader' vessels between 1985 and 1987. In early 1988 ANL lost a large contract for carrying paper for APPM to Brambles and sold the *Melbourne Trader*. Thus in less than four years ANL had reduced its operations in Tasmania from six ships to one, the *Bass Trader*. Brambles chartered the small Swedish Ro-Ro the *Gute* to help carry the increased volumes of cargo on its Burnie-Melbourne service.

Currently Tasmania is served by eight ships operated by five shipping lines. While four of these vessels have been employed in the service throughout, the replacement of each is under consideration. Of the ships recently introduced the *Challenger B* has already been replaced with the *Stena Topper* renamed *Tasmania B*. The Tasmanian Government has been studying the options for replacing both *Straitsman* and the *Abel Tasman*. It is understood that ANL may also announce the commissioning of a new freight vessel in the near future.

Ferries

Bruny Island Service

Transport Tasmania has signed a contract for a replacement ferry for the Kettering to Roberts Point run. The new ferry will cost \$5.2 million and is expected to be delivered by 31 August 1990. The new vessel has an overall length of 52 metres and will have a capacity for 74 medium sized vehicles and 400 persons. It will cater for loaded semi-trailers with a gross weight of 44 tonnes. With a clear main deck height of 4.5 metres, it will allow tourist buses with air conditioning units on top, as well as other overheight vehicles, to be carried on the main deck. The new vessel will replace the *Mangana* which will be put up for sale. The *Harry O'May* will become the standby ferry.

Bass Strait Service

Record passenger figures highlighted a successful year for the TT-Line's ferry *Abel Tasman*. In the twelve months to June 1989, the TT-Line recorded an operating surplus of \$8.3 million, almost double that of the previous year.

A total of 216 768 passengers travelled on the *Abel Tasman* during 1988-89, an increase of 18 per cent on the previous financial year. The number of vehicles carried increased by 13 per cent to 55 294.

The TT-Line adopted an innovative marketing strategy with the introduction of a number of packages. The 'Naughty Weekender' offered three nights from \$147 - the return journey on the *Abel Tasman* (two night's accommodation) and one night in Tasmania. This resulted in an average 100 passengers coming to Tasmania each weekend. The 'If You're Willing I'm Abel' package, offering five nights in Melbourne and the return passage from Tasmania for \$313 was also popular.

19.1.3 Air

Air transport provides a vital role in the maintenance and development of passenger and freight flows between Tasmania and the mainland - a role far more important than in other States where alternative additional transport modes for interstate movement of passengers and freight exist.

Australian, Ansett and East-West provide regular domestic services to and from Tasmania. Qantas flies twice weekly to Melbourne or Sydney to connect with international flights, and Air New Zealand flies weekly between Hobart and Christchurch. Internally, Airlines of Tasmania, Scenic Air, Par Avion and Tasair provide passenger, charter and tourist flights within the State. Airlines of Tasmania and Promair connect King and Flinders islands and provide interstate service between Tasmania and Victoria.

Hobart Airport is located 18 kilometres from the city and is ranked eighth in the volume of passengers handled at Australian terminals.

19.6 DOMESTIC AIR TRANSPORT, 1988

Airports	Aircraft movements	Passengers ('000)	Freight (tonnes)
Hobart	7 971	520	6 392
Launceston	11 285	360	35 227
Devonport	6 143	173	124
Wynyard	2 455	66	135

On 1 January 1988, the Federal Airports Corporation was vested with the operation of the airport, as well as 16 other major airports throughout Australia, including Cambridge and Launceston. From 1 April 1989 a further six airports were incorporated in the FAC network.

The airport has been developed to accommodate Boeing 747 aircraft operating to places as far away as Singapore. International operations are provided by Air New Zealand flying to Christchurch, New Zealand, and by Qantas to Sydney and beyond. A new international terminal building and extended runway were completed in 1985. The runway is 2251 metres long and is serviced by modern radio navigation aids to permit all weather use. Over 17 000 international passengers used Hobart in 1988.

Launceston Airport is also operated by the Federal Airports Corporation and is located some 16 kilometres south-east of Launceston City. The airport ranks as the next busiest to Hobart handling about 360 000 passengers each year, and more freight than any other airport in Tasmania through Ipec, Australian and Ansett freight operations. This airport is ranked fifth in Australia for the movement of freight.

The Airport is the base for Airlines of Tasmania and the Flying Doctor Service, and is also used for commuter operations, flying training, light aircraft charter, and other aerial work operations.

Tasmania has nine other aerodromes at Cambridge, Devonport, Flinders Island, King Island, Queenstown, Smithton, St Helens, Strahan, and Wynyard. Devonport and Wynyard airports have runways large enough to carry jet aircraft and handle regular passenger services to Victoria, while the remainder predominantly cater for internal commuter, charter and private aircraft services.

19.1.4 Rail

On 1 July 1975 control of the State's railway system was transferred to the Commonwealth Government. All regular passenger train services in Tasmania ceased in 1978, as the railways had carried relatively few passengers for decades and budget constraints forced cutbacks in public expenditure. Today the State's rail system is used only to transport goods or to run an occasional tourist excursion.

Operational and financial responsibility for the Tasmanian railways was assumed by the

Optical Fibre Communications

Various techniques have been used to provide long-distance telephone links. Early methods relied on the transmission of electrical pulses via coaxial cable. Radio or microwave technology has also been used. In this method information is carried by electromagnetic waves having the frequency of radio or microwaves. Over the last few years Telecom has been carrying out the development of an optical fibre network which is expected to greatly enhance the capacity and reliablity of long distance telephone links.

The basis of fibre optics is the transmission of laser light through a waveguide. The waveguide is in essence a very thin fibre made of silica glass through which the light beam travels. In practice there are two coaxial cylinders of slightly different refractive index. When a light beam strikes the boundary at a glancing angle it is totally internally reflected, so that the light beam is constrained in the fibre system. The beam can thus be routed in a convenient manner and need not be limited to straight line propagation.

The light beam itself does travel in short straight lines as it is bounced off the reflecting surfaces, but the net effect is for the beam to travel in any desired path. In effect, the light beam can be made to travel round corners. In a long distance telephone link the information from the 'local' telephone lines is converted to light pulses which travel along the fibre link and are reconverted at the other end.

What are the advantages of fibre optic technology?

Any long distance communications link requires sufficient capacity to handle a number of different 'messages' at the same time. It is this large capacity which makes optical fibre links so attractive. The capacity for sending information is much greater with fibre optics than the present radio link system. The optical fibre system has the added advantage over radio methods that it is not affected by changing atmospheric conditions.

Another key factor in any transmission system is the extent to which transmission losses occur. Normally these occur whatever the method of transmission, and increase with distance. Over the distances used intelephone systems this can be quite significant.



Checking the optical-fibre cable as it passes through the laying tube into the ground near Perth. Photo: Mercury

Modern optical fibre systems have relatively small transmission losses. In fact the idea of optical fibre transmission has been around for some time but a principal drawback to its practical application was the high transmission losses that occurred when the technology was first developed. For instance, in the best fibres obtainable prior to 1970, light waves retained only about 1 per cent of their energy after travelling 20 metres. By 1984 the transparency of fibres had been improved to a level whereby only 10 per cent of energy was lost over 20 kilometres. More efficient fibres are constantly being developed, but even so it is usual to 'boost' the signal at regular intervals when long distances are involved.

Australian National Railways Commission in 1978. In 1985, the Commonwealth Government advised details of future funding for the Tasmanian region, to be called Tasrail, with a contract for three years and requirements that certain achievements had to be met.

Since the transfer in 1978 of Tasrail from the State Government to the Australian National Railways Corporation, freight hauled until 1988 had grown by 74 per cent. The track system had been upgraded to a good standard with a \$26 million capital investment, and also a large working expenditure.

Tasrail's mainline freight capacity has been significantly increased by adding 457 upgraded wagons and 34 locomotives to the fleet. This has allowed retirement of obsolete stock. Tasrail's operational fleet in 1988 consisted of 824 wagons and 53 locomotives.

The railways play a vital role in Tasmania's prosperity - in 1987-88, Tasrail moved 2 360 700 tonnes of freight, an increase of 6.6 per cent on that for 1986-87.

Tasrail aims to get bulk tonnage onto rail, thus making the highway safer for the general public and encouraging the tourist industry.

In 1988, the Federal Government agreed to continue to support rail operations in Tasmania for a further five years in order to ensure a measure of stability and predictability, which will assist Tasrail to achieve higher productivity and greater efficiency.

19.7 TASRAIL FREIGHT ('000 tonnes)

Commodity	1987-88	%
Woodchip logs	818.6	34.7
Coal	375.3	15.9
Cement	330.0	14.0
Containers	300.7	12.7
Pulpwood logs	221.7	9.4
Sulphuric acid	131.3	5.6
Timber	61.7	2.6
Fertilizer	61.0	2.6
Other goods	60.4	2.5
Total	2 360.7	100.0

19.2 TELECOMMUNICATIONS

Australia's telecommunications infrastructure has recently undergone dramatic changes. From January 1989, Telecom became a corporation. At the same time markets which were the exclusive responsibility of Telecom such as cabling and wiring of customer premises, PABX maintenance and standard feature telephones for second and subsequent telephones were opened up to competition.

Network developments

One of Telecom's major objectives is the upgrading of existing long distance links with optical fibre technology. Optical fibre cables are essentially small diameter flexible glass rods along which information is transmitted by impressing on and off pulses on a laser light beam. The optical links will greatly increase the carrying capacity of existing links. In Tasmania an optical fibre link has been made between Hobart and Launceston, replacing the existing microwave or radio link. It is planned to extend the link to Smithton in the future.

The telephone service between Northern Tasmania and the mainland was considerably upgraded in April 1989 when Telecom completed a digital radio link via Flinders Island. All telephone traffic between Tasmania and the mainland now goes by radio signal. In addition fax and data traffic are carried by the same method. The radio link is a big improvement on the old undersea coaxial cable because of greatly increased carrying capacity. Even so it is expected that the radio links will shortly be nearing capacity and a submarine optical fibre cable connecting Tasmania to the mainland is planned.

19.8 TELECOMMUNICATIONS SERVICES, TASMANIA, DECEMBER, 1989.

Households with at least one phone	93%
No. of public phones	1 091
Telephone services in operation	190 040
No. of local calls made	171 233 000
No. of trunk and STD (exl. ISD)	45 458 000

New Services

Telecom in 1988-89 introduced a variety of new products and services. The 0055 information services provided access to a wide range of topics. In 1988-89 Australian users made seven million calls on 1300 services. A telephone calling card, Telecard, was introduced which allows the customer to make phone calls without cash from any phone. The Integrated Services Digital Network (ISDN) Commercial Service allows voice, text, data, video and image services to be carried on the one network.

19.3 POSTAL SERVICES

1 July 1989 marked a major milestone in the development of the Australian postal service. The former Australian Postal Commission (Australia Post), established with vesting in 1975, became a fully fledged Corporation from that date. The new Australian Postal Corporation Act provides a solid framework for Australia Post to develop into an innovative and responsive service enterprise.

Australia Post is required to provide a letter service at a universal price and meet minimum financial targets. The Act also provides Australia Post with the freedom to offer a whole range of services and products not available under previous legislation.

Australia Post provides surface and airmail services, both within Australia and to and from other countries for the carriage of letters, cards, aerogrammes, newspapers, packets and parcels. Special services include priority paid, cash on delivery, security post, response services, private boxes and locked bags and several reduced rate services. It also operates an express courier service and electronic postal services, together with a money transfer service, and sells a range of packaging products, postal stationery and philatelic items.

In September 1988 the Electronic Counter Service network was introduced in Tasmania. Computerised terminals for the processing of payments on behalf of agencies such as Commonwealth, State and local authorities, and private sector principals are now operating in all official post offices and 53 post office agencies. Tasmania was the first State in Australia to have this service.

Australia Post employs approximately 600 staff in Tasmania. There are 40 post offices and 180 post office agencies. Mail was distributed to 179 800 different delivery points throughout the State during 1988-89 - 163 700 households and 16 100 businesses.

The Future: Changes are on the way involving a major expansion of electronic postal services and the introduction of new technologies such as Optical Character Readers (computerised letter sorting machines) to improve customer service and productivity. Australia Post is also progressing towards containerisation of mail.

19.4 RADIO AND TELEVISION SERVICES

Radio and television broadcasting fall within the jurisdiction of the Commonwealth Government and are the responsibility of the Minister for Transport and Communications. Federal bodies which are directly involved include the Department of Transport and Communications, Australian Broadcasting Tribunal (ABT), Australian Broadcasting Corporation (ABC), Special Broadcasting Service (SBS) and the Australian Telecommunications Commission (ATC).

The Australian broadcasting system consists of three types of services:

- national radio and television services provided by the ABC and SBS;
- commercial radio and television services provided by commercial companies under licence; and
- public radio services provided by nonprofit making corporations under licence.

The *Broadcasting Act* 1942 governs the establishment and operation of commercial and public services. It also contains provisions relating to the SBS and the ABT. The *Australian Broadcasting Corporation Act* 1983 provides for the ABC. The Minister for Transport and Communications is responsible for developing policy, legislation and for planning of the overall system. The Minister is also responsible for approving the technical operation of services and for investigating interference to the transmission or reception of programs. The Department of Transport and Communications

provides advice on all matters the Minister is responsible for, and in many instances undertakes functions on behalf of the Minister. An important function of the Minister is the consideration of all planning proposals for the establishment of radio and television services. For commercial and public services, once the Minister has approved proposals and invited applications for a licence, such applications are considered by the ABT.

National Broadcasting Services

The ABC currently provides one television service nationally, four radio services (two AM and two FM) in the capital cities and two radio services (one AM and one FM) in regional areas (although not all areas are yet receiving ABC FM).

The ABC is a major user of the new Australian satellite system, Aussat, and this enables people to receive ABC television and three ABC radio services although they live in remote areas or areas in which it is extremely difficult to receive broadcasting signals by terrestrial means. However, reception via satellite will only be possible with the necessary equipment.

Commercial Broadcasting Services

A commercial radio or television licensee is required under the Broadcasting Act to undertake to provide an adequate and comprehensive service to people within the service area of the licensee and to use and encourage the use of Australian resources. Whether a licensee has met the undertaking is a matter of judgement for the Tribunal after considering all relevant information, including views and comment from interested members of the public through the licensing process. Commercial broadcasters receive most of their income from the broadcasting of advertisements. Commercial broadcasting licensees are required to pay licence fees annually.

It is planned in the future to extend the services of both TVT Hobart and TNT North-East Tasmania to cover the whole State, thus providing all viewers with two competing commercial services.

Commercial radio services on the FM band are also being extended. Hobart had its first commercial FM radio service on air in 1990, and a service is also planned for Northern Tasmania.

SBS television will be extended to Northern Tasmania in 1993.

19.9 RADIO STATIONS IN OPERATION AT 30 JUNE 1989

Call Sign	Classification	Location
7ZL	National	Hobart
7ZR	National	Hobart
7NT	National	Launceston
7QN(a)	National	Queenstown
7FG(a)	National	Fingal Valley
7SH(a)	National	St Helens
7HO	Commercial	Hobart
7HT	Commercial	Hobart
7AD	Commercial	Devonport
7BU	Commercial	Burnie
7EX	Commercial	Launceston
7LA	Commercial	Launceston
7XS	Commercial	Queenstown
7SD	Commercial	Scottsdale
7THE	Public	Hobart
7HFC	Public	Hobart
7LTN	Public	Launceston
7WAY	Public	Launceston
7RGY	Public	Geeveston
7ABC	National	Hobart
		Launceston
		NE Tasmania

(a) Transmits, in the main, programs originating from 7NT.

Public Broadcasting Services

Public radio services have expanded rapidly throughout Australia since 1978 when the then Minister announced policy guide-lines for its development. From 12 stations in 1978, the sector now comprises over 70 services in 1989. There are five public radio stations in Tasmania. 7RPM Hobart, a specialised station for the printhandicapped, will be licensed in 1990. At that time its current frequency will be changed to the ordinary broadcast band. A new public radio station is planned for Burnie. Funds may come from a variety of sources including government and non-government grants, subscriptions and sponsorship announcements. Public radio services are essentially local in focus and may program material which reflect the wide range of interests, informational, cultural and educational, in each service area.

Program and Advertising Standards

Commercial and public licensees are required to meet the Tribunal's standards. The ABC is

required to have regard to the standards but are not obliged to meet them. The standards include requirements relating to Australian content, the acceptability of program material, duration and suitability of advertisements and, in the case of television, special provisions relating to children's programs.

The Tribunal does not maintain an office in Tasmania, but the files for local public inquiries are held in local public libraries for perusal. Complaints about programs on commercial and public stations may be addressed to the Tribunal in writing at 76 Berry Street, North Sydney, 2060, or by phoning the Melbourne office (03) 670 1777.

19.10 TELEVISION STATIONS IN OPERATION, 30 JUNE 1989

Call sign and channel	Area	Transmitter location
National -		Resident Historia
ABT2	Hobart	Mt Wellington
ABNT3(a)	NE Tasmania	Mt Barrow
ABKT11(a)	King Island	Gentle Annie Hill
SBS	Hobart	Mt Wellington
Commercial -		
TVT6	Hobart	Mt Wellington
TNT9	NE Tasmania	Mt Barrow

⁽a) Transmits programs originating from ABT2.

Licence Renewals

Public hearings were held during 1988 and 1989 to renew the licences for 7HO, 7HT, 7HFC, 7THE, 7QT and 7EX. As a result, several conditions were placed on these licences.

In the case of 7HT, the licensee was to report to the Tribunal 12 months from the renewal on changes designed to ensure full and complete disclosure of the financial situation of 7HT as an entity independent from ENT Ltd or any associated company, and research into the acceptability to the community of the service provided by 7HT and any programming changes made or proposed as a result of this research. The licence for 7EX is not yet renewed, but matters considered by the Tribunal were similar to those for 7HT.

In the case of 7THE, the licensee was to report to the Tribunal at six-monthly intervals giv-

ing full details of the station's financial situation, details of management reforms and corporate restructuring, improvements in the technical operation of the station, details of research and the programming changes resulting from it, and the ways in which volunteers and the community are encouraged to participate in the decision-making processes and the programming of the station. Should the Tribunal not deem this condition to have been adequately met, it will consider whether to hold an inquiry into the suspension or revocation of the licence, or the imposition of further conditions.

The hearings for 7HO, 7HFC and 7QT (now 7XS) were uncontroversial, and no conditions were imposed. All of the other licences which fell due during the period were renewed without public hearings.

A public hearing was held in 1988 for the grant of a commercial FM licence to serve Hobart and Southern Tasmania. The licence was granted to Southern Tasmania FM Stereo Pty Ltd. A public hearing was held in 1989 into the grant of a licence for a public radio station to serve the North-West Coast region of Tasmania, but the licence has not yet been granted.

19.11 LICENCE EXPIRY DATES OF BROADCASTING STATIONS, TASMANIA

Commercial Television		
TVT	26 - 7 - 1992	
TNT	30 - 7 - 1992	
Comm	nercial Radio	
7AD	30 - 6 - 1990	
7BU	30 - 6 - 1990	
7EX	31 - 3 - 1989	
7HO	31 - 3 - 1991	
7HT	17 - 4 - 1992	
7LA	17 - 7 - 1992	
7SD	30 - 6 - 1990	
7XS	31 - 3 - 1991	
Pu	blic Radio	
7HFC	30 - 6 - 1991	
7LTN	31 - 10 - 1992	
7RGY	9 - 10 - 1992	
7THE	6 - 6 - 1992	
7WAY	31 - 10 - 1992	

New Radio Station

TTT-FM, Tasmania's first new commercial radio station in 53 years officially began broadcasting on 4 July 1990 from studios in Liverpool Street, Hobart.

The broadcast was the culmination of more than three years work, particularly on research to ensure it reached the right market. The station is targeted at the 20-to-40 age group.

It is 90 per cent owned by small local shareholders representing a broad cross section of the Hobart community.

Microwave Links, Intrastate Relays and Translator Stations

The prime sources of programs in Hobart are the commercial and national studios which are linked to their Mt Wellington transmitters (TVT6 and ABT2) by microwave links; the commercial studio in Launceston feeds programs to its Mt Barrow transmitter (TNT9) by the same method.

As there is no national studio at Launceston, the transmitter on Mt Barrow (ABNT 3) relays

the Hobart national programs through the broadband radio link. A similar service is also available to commercial stations.

19.5 REFERENCES

ABS Publications Produced by the Tasmanian Office:

Motor Vehicle Registrations, Tasmania (9303.6), monthly.

Road Traffic Accidents Involving Casualties (9405.6), quarterly.

Road Traffic Accidents Involving Casualties (9406.6), annual.

Other Publications:

Australian Postal Commission, Annual Report 1988-89.

Australian Telecommunications Commission, *Annual Report* 1988-89.

Metropolitan Transport Trust, *Annual Report*, 1987-88, Tasmanian Government Printer, Hobart.

Australian National Railways Commission, *Annual Report*.

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TRADE

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Chapter 20

TRADE

Tasmania is often described as the three per cent State, as we represent that proportion of Australia. Looking at Tasmania's trading activity, as a whole, and as a percentage of Australia's, reinforces this image.

Tasmania's first recorded trading activity occurred in 1808 when a cargo of sugar arrived at the colony from Bengal. Exports began in 1812 when the *Cyclops* sailed for Sydney with a cargo of locally grown wheat.

In June 1813 ports were opened to commerce and trading began in Van Diemen's Land. 20 000 bushels of wheat were exported to Sydney in 1817. In 1819 wheat to the value of £4 000 (\$8 000) wasexported and in 1820, 43 917 pounds (19 962 kg) of salted meat which was produced at the settlement of Hobart, was exported to Sydney.

During the 1820s the economy of the colony was becoming diversified even though it still remained very basic. Imports arrived from Britain, India, Mauritius and Batavia while exports were shipped to Britain and Sydney. In 1822 goods exported consisted of wheat, oil, whalebones, seal and kangaroo skins, logs of pine and beechwood, salt, wool, horses and hides. Barley, potatoes, whalebone, cedar logs and tallow were included in 1823.

In the Statistical Returns of Van Diemen's Land 1835-38, compiled from official records in the Colonial Secretary's office, it was recorded 'that the imports for the three years have increased 20 per cent, and the very pleasing fact that the exports for the same period have increased at the astonishing rate of 81 per cent, or from £320 679 (\$641 358), in 1835 to £581 475 (\$1 162 950) in 1838.'



Loading newsprint for export.

Photo: Mercury

The most prominent item imported into Van Diemen's Land, during the early years of settlement, was livestock. By 1837 however, two years after the settlement of Port Phillip, livestock had become the major export line which, together with wool, dominated export trade.

During the 1840s there was a falling off of exports due to a slump in the price of the Colony's staple commodity, wool. There was also a decline in the export of oil and whalebone which were also main export commodity items. The largest increase in trade occurred with the British colonies during this period.

In 1842 the value of imports into Van Diemen's Land was a high £21 (\$42) per head compared with only £2 10s (\$5) per head in

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Britain. The value of exports for the same year, per head of population was £10 (\$20) per head for Van Diemen's Land compared with only £2 (\$4) for Great Britain and Ireland. By the mid 1800s the value of trade, especially exports, had grown dramatically.

As the colony developed and progressed through the late 1800s the exporting of locally produced commodities became increasingly important to the economy of the State.

By 1880 the value of exports had exceeded the value of imports. This balance of trade (excess of exports over imports) see-sawed over the following five decades then stabilised over the period 1937-38 to 1948-49 with exports once again exceeding the value of imports. From 1949-50 to 1954-55 the balance fluctuated once again but from 1955-56 the value of exports has consistently exceeded the value of imports. As a result of this healthy balance of trade the State plays a healthy role as an earner of export income for Australia.

In 1988-89 the total value of exports from Tasmania stood at \$1 357 million, an increase of 11 per cent on 1987-88.

20.1 TASMANIA'S TRADING PARTNERS

From the earliest days of Tasmania's settlement the United Kingdom was the main overseas market for the State's exports. However, over the last 20 years or so Tasmania's overseas markets have changed markedly.

20.1.1 Market Changes

In 1957-58 Tasmania's major trading partners in terms of the value of goods exported were as follows:

•	United Kingdom	\$18.6 million
•	United States of America	\$4.0 million
•	India	\$3.7 million
•	Italy	\$2.8 million
•	France	\$2.8 million
•	Japan	\$2.8 million
•	Federal Republic of Germany	\$2.4 million

A decade later Thailand and the Phillipines had also become significant markets.

During the late 1960s Japan became the principal recipient of Tasmanian exports when it substantially increased its iron-ore requirements. In the twelve months to June 1968, Japanese importers spent a total of \$9 million on Tasmanian goods and the following year this had jumped to \$17 million, most of which was for iron-ore.

The new ranking of Japan, United Kingdom and the United States of America persisted until 1972-73 when the UK slipped behind the USA. In 1975-76 the United Kingdom was replaced by Indonesia, and Malaysia became an important market in 1976-77 when it increased its intake of tin concentrates from Tasmania.

More recently Belgium-Luxembourg (the Benelux) has become an important market for Tasmanian lead concentrates and greasy wool. Between 1984-85 and 1986-87 exports to this market increased five fold, from \$7.4 million to \$39.6 million.

For 1988-89 Tasmania's major trading partners in terms of value of goods exported had become:

• Japan	\$519.1 million
 United States of America 	\$136.5 million
Malaysia	\$96.1 million
Taiwan	\$84.4 million
Indonesia	\$71.7 million
South Korea	\$53.7 million
Hong Kong	\$46.5 million
• Germany, Federal Republic	\$37.4 million
• Singapore	\$35.4 million
Belgium - Luxembourg	\$34.4 million
New Zealand	\$33.6 million

Britain has changed from being the international trading focus of Tasmania to being the twelfth largest recipient of exports taking a relatively unimportant 1.9 per cent of Tasmania's foreign trade. To a great extent this is due to changes that are present in the buying patterns of Europe with the advent of the European Economic Community, but it also shows the development of export industries tailored to the markets of different countries.

20.1.2 Main Trading Partners

Countries bordering the Pacific Ocean constitute Tasmania's main trading partners. Japan, the United States of America, Malaysia, Taiwan, Indonesia, South Korea and Hong Kong now provide markets for 74.1 per cent of Tasmania's exports. At the same time, Japan,

the United States of America, Canada, Singapore, New Zealand, Taiwan and South Korea provide 61.5 per cent of Tasmanian imports.

Japan

In 1988-89 Tasmania exported a total of \$519 million worth of goods to Japan. This represented 38 per cent of the total value of Tasmania's foreign exports. Most of these exports consisted of relatively unprocessed goods although certain high value added items are starting to appear on the list. There are many products that Tasmania provides that are in demand in Japan, but there are some difficulties with open access to the Japanese marketplace (for example with beef, fruit and downstream processed products).

20.1 TASMANIAN EXPORTS TO JAPAN, 1988-89

Commodity	Quantity (tonnes)	Value (\$'000)
Abalone	740	28 796
Beef	3 351	12 830
Cheese	4 496	10 206
Crayfish	137	3 314
Dried milk	1 644	3 422
Hides and leather	139	362
Lamb	784	1 049
Metals (in all forms		
except manufactures) -		
Aluminium	10 855	26 014
Cadmium	262	5 154
Copper	64 323	49 007
Iron	28 849	2 020
Lead	16 521	6 766
Silicon	795	1 413
Tungsten	540	3 256
Zinc	36 498	44 028
Onions	1 989	985
Textiles and yarns	20	315
Timber	311	387
Trout and salmon	11	167
Wood-pulp and chips	39 066	13 858
Wool	1 836	22 275
Restricted items (a)	4 869 645	281 119
Other items		2 397
Total		519 140

⁽a) Comprises the value of items for which details are not available for separate publication, mainly woodchips and aluminium.

United States of America

Trade with the United States of America is worth \$136.5 million, which represents 10.1 per cent of Tasmania's overseas exports. The major

item traded is zinc valued at \$57.5 million. Metals, at various stages of processing, make up 58 per cent of the goods sent to the USA. In contrast with our other major trading partners, there is a higher degree of entry (by value) for Tasmanian finished products such as linen, machinery and textiles. Goods that are fairly well downstream processed make up over 10 per cent of Tasmania's export trade to the USA.

20.2 TASMANIAN EXPORTS TO THE UNITED STATES OF AMERICA, 1988-89

Commodity	Quantity (tonnes)	Value (\$'000)
Abalone	30	1 072
Bed linen	422	8 645
Beef	3 916	10 400
Casein	160	1 099
Cheese	2 051	4 766
Crayfish	45	1 584
Fish fillets	267	2 360
Lamb and mutton	258	450
Machinery	42	806
Malt and malt products	609	858
Metals (in all forms		
except manufactures) -		
Cadmium	517	1 913
Ferro-alloys	44 560	19 891
Titanium	120	178
Zinc	27 318	57 554
Oil seeds	1 005	1 399
Opium and derivatives	4	613
Sheep (breeding - number)	40	148
Textiles and yarns	166	2 304
Wool	894	8 441
Restricted items (a)	36 666	8 254
Other items		3 780
Total	F1211-11	136 515

⁽a) Comprises items for which details are not publishable.

Malaysia

Tasmania's most valuable export to Malaysia is tin concentrates. Despite the recent world tin surplus, in 1988-89 the value of this commodity accounted for 63.5 per cent of the total value of Tasmania's exports to Malaysia. This compares with \$47.9 million (73 per cent) in 1986-87. Malaysia is also the third largest overseas market for Tasmanian apples, being only just behind Singapore and Finland. In total, \$96 million worth of goods were sent to Malaysia, 7.1 per cent of Tasmania's total export trade.

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20.3 TASMANIAN EXPORTS TO MALAYSIA, 1988-89

Commodity	Quantity (tonnes)	Value (\$'000)
Apples	1 514	1 317
Dried milk	112	209
Hops	77	357
Machinery	9	135
Malt and malt products	30	106
Metals (in all forms		
except manufactures) -		
Aluminium	3 784	10 784
Ferro-alloys	2 000	1 082
Tin	13 792	61 021
Titanium	845	2 124
Zinc	8 420	16 522
Restricted items (a)	8 465	1 348
Other items		1 107
Total		96 112

⁽a) Comprises items for which details are not publishable.

Indonesia

Indonesia, our fifth largest export market is worth \$72 million, which is 5.3 per cent of our trade. It is virtually a single product market with zinc comprising 87.6 per cent of the value of exports.

20.4 TASMANIAN EXPORTS TO INDONESIA, 1988-89

Commodity	Quantity (tonnes)	Value (\$'000)	
Beef	3	25	
Food beverages	1 074	2 046	
Hops	16	79	
Machinery	3	77	
Metals (in all forms except manufactures) -			
Aluminium	79	205	
Ferro-alloys	6811	3 127	
Titanium	938	2 407	
Zinc	3 440	62 871	
Onions	247	73	
Restricted items (a)	42	7	
Other items		814	
Total		71 731	

⁽a) Comprises items for which details are not publishable.

Taiwan

Trade with Taiwan centres around raw materials with only 1.7 per cent being processed beyond the 'refined' stage and this is mainly in the

food products area. Taiwan represents \$84.4 million, or 6.2 per cent of Tasmania's external trade.

20.5 TASMANIAN EXPORTS TO TAIWAN, 1988-89

Commodity	Quantity (tonnes)	Value (\$'000)
Abalone	198	7 276
Beef	455	1 631
Crayfish	40	799
Dried milk	434	902
Food beverages	103	302
Machinery	5	194
Malt and malt products	291	1 052
Metals (in all forms		
except manufactures) -		
Aluminium	10 631	31 319
Silicon	398	955
Titanium	445	1 102
Zinc	14 700	28 637
Opium and derivatives	1	926
Textiles and yarns	6	149
Timber	243	205
Wool	50	242
Restricted items (a)	59	163
Other items		8 548
Total		84 402

⁽a) Comprises items for which details are not publishable.

20.2 VALUE OF OVERSEAS TRADE

Tasmania has a healthy balance of overseas trade. The value of exports in excess of imports has increased dramatically in recent years. In 1988-89 it was \$2 235 per head of mean population, an increase of 6.7 per cent over the previous year. Over the same period imports rose by 23.4 per cent. Compared with the rest of Australia, Tasmania has performed more than creditably. Per head of population, Tasmania has consistently imported less and exported more than Australia as a whole.

It is important to note that the level of imports into Tasmania is, however, consistently understated. This is due to large consignments arriving on the mainland and being broken up and a fragment, now interstate trade, coming to Tasmania. This problem does not exist for exports.

20.6 BA	LANCE	OF INT	ERNAT	IONAL
	TRADE	E, TASN	IANIA	

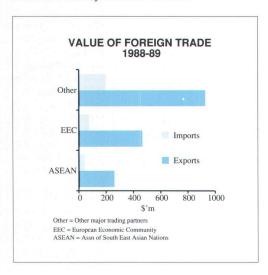
Year	Total (\$'000)	Per head of population (\$)
rear	(Φ 000)	ροραιαποί (ψ)
1850	-30	-0.4
1860	-212	-2.4
1870	-288	-2.8
1880	+286	+2.5
1890	-822	-5.7
1900	+1 074	+6.2
1930-31	-492	-2.2
1940-41	+2 932	+12.0
1950-51	+4 626	+15.9
1960-61	+9 918	+27.9
1970-71	+113 451	+290.7
1980-81	+333 163	+783.5
1984-85	+451 699	+1 028.0
1985-86	+600 613	+1 345.0
1986-87	+810 283	+1 804.0
1987-88	+939 540	+2 095.0
1988-89	+1 007 946	+2 235.2

Balance of trade figures were as important in the 19th century as they are in the 20th.

'No. 5 shows that the Imports for the three years have increased 20 per cent, and the very pleasing fact that the Exports for the same period have increased at the astonishing rate of 81 per cent, or from £320 679 in 1835 to £581 475 in 1838.

The imports are more than £15 for every individual on the Island.'

Quote from the Statistical Returns of Van Diemen's Land, from 1824 to 1839.



20.7 VALUE OF FOREIGN TRADE, 1988-89 (\$'000)

Country or		
country group	Exports	Imports
Association of South East		
Asian Nations (ASEAN) -		
Indonesia	71 731	189
Malaysia	96 112	688
Phillipines	21 943	674
Singapore	35 419	29 982
Thailand	27 494	2 381
ASEAN Total	252 699	33 914
European Economic		
Community (EEC) -		
Belgium-Luxembourg	344 301	690
Denmark	532	2 027
France	16 444	9 730
Germany, Federal		
Republic	37 406	13 855
Greece	3 412	5 757
Ireland	1 286	563
Italy	23 533	20 579
Netherlands	4 988	8 572
Portugal	375	74
Spain	2 020	679
United Kingdom	26 627	16 494
EEC Total	460 924	79 020
Other major trading partners		
Canada	5 949	35 089
China (excluding Taiwan)	4 963	3 562
Hong Kong	46 492	1 179
India	10 712	1 596
Japan	529 628	53 891
Korea, Republic of	53 730	7 831
New Zealand	33 561	24 559
Saudi Arabia	17 240	1 391
Taiwan	84 402	11 610
United States of America	136 515	51 241
World Total	1 356 594	304 883

20.3 COMMODITIES TRADED

20.3.1 Commodities Exported

Tasmania produces a wide range of goods although our international exports are basically of raw materials and are dominated by a few commodities. The top six exports provide 69.2 per cent of the total value of exports. Some of these materials are partly processed or refined within the State (for example zinc), whilst others (such as woodchips) have a very low value added

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component. There are encouraging signs with the growth of very high quality food production and processing industries which have a very good potential market internationally. This is due to their freedom from environmental pollutants and disease free state in comparison with their mainly European competitors. An excellent example of this are the fine cheese and the

20.8 TASMANIAN OVERSEAS EXPORTS, 1988 - 89

Commodity	Quantity (tonnes)	
Abalone	1 462	54 054
Apples	9 058	6 902
Bed linen	454	9 281
Carpets	93	1 033
Casein	160	1 099
Cheese	7 733	18 904
Chocolate products	1 276	2 689
Crayfish	296	7 306
Dried milk	3 378	6 854
Fish fillets	268	2 369
Food beverages	2 264	5 221
Hides and leathers	5431	14 175
Hops	819	2 982
Machinery	344	7 034
Malt and malt products	4714	5 090
Meat -		
Beef	3 351	12 830
Lamb and mutton	2 104	3 462
Metals (in all forms except		
manufactures) -		
Aluminium	42 498	118 317
Cadmium	931	7 948
Copper	64 323	49 007
Ferro-alloys	74 776	34 422
Iron	38 933	2 665
Lead	57 459	41 067
Tin	13 792	61 021
Titanium	7 930	20 022
Tungsten	1 912	11 029
Zinc	214 117	312 375
Oil seeds	1 978	2 522
Onions	40 336	19 823
Opium and derivatives	35	5 546
Paper and paper products	6 896	10 009
Plants for chemical extraction	2 383	1 491
Sheep (no.)	273 398	7 094
Tallow	8 017	3 610
Textiles and yarns	301	4 660
Timber	4 807	4 148
Woodchips and pulp	50 819	17 722
Wool	10 376	91 949
Restricted items (a)	5 106 096	312 488
Other items	98 032	56 194
Total		1 356 594

⁽a) Comprises items for which details are not publishable and is mainly comprised of woodchips and aluminium.

onion product exporters. Some Tasmanian manufacturers have also started selling quality goods overseas (for example winches, boats, alloy wheels, boots and radio aerials). Currently these manufactures are only a small proportion of the processed goods exported. At present processed goods make up only \$70.9 million (5.2 per cent) of the major exports and most sales of these high value added products are to New Zealand and the Pacific Islands. Entry to the more restricted markets of Europe, East Asia and the USA is difficult.



Bulk cargo carrier Australian Venture leaves Burnie with 300 containers of onions. Photo: Examiner

20.3.2 Commodities Imported

As would be expected of any modern diverse society, Tasmania imports a wide range of goods. Forty items were worth more than \$2 million in aggregate value of imports in 1988-89. There were another 22 items that had aggregate values of over \$1 million each. Unlike exports, where a few major items provide the majority of the value, the top six imports together make up only 31.2 per cent of their respective total. Most items that are imported direct to Tasmania are items of capital equipment and are thus income generating. Another large group are imported for immediate further downstream processing into goods for either domestic consumption or re-export. Examples of these goods include wood pulp and alumina.

There is a group of items, mostly for domestic household consumption but also including automatic data processing equipment and other goods, which is under-reported. These goods frequently arrive in another State in bulk and are broken up and sent on by a wholesaler.

20.9 TASMANIAN OVERSEAS IMPORTS, 1988 - 89

	Quantity	Value
Commodity	(a)	(\$'000)
	404	2.022
Aluminium and products	484	3 032
Artificial filaments (b)	682	2 826
Artificial staple fibres (b)	484	6 8 5 6
Chemicals, earths and stone -		
Calcium phosphate	56	3 886
Chemical elements	1 344	2 447
Chloride, bromide and		
iodide salts	2 060	3 353
Clays, various	27 611	4 479
Fertilizers, mixed	8 092	2 111
Fertilizers, potassic	20 694	2 460
Fluoride salts	5958	4 861
Graphites and carbonaceous		
pastes		2 899
Petroleum oils and products		
(litres)	92	19 376
Petroleum cokes	59 898	8 883
Sulphites	47 867	2 066
Cocoa paste, butter and powde	er 6814	26 039
Cotton (b)	61	12 402
Fish	141	2 525
Machinery for capital investm	nent -	
Carbon electrodes and brush		3 874
Centrifuges		5 682
Electrical generating sets		8 695
Foundry converters and more	ılds -	3 765
Machine tools and parts		9 884
Pulp and paper making mac	hines -	20 166
Transmission shafts	-	2 060
Unspecified food preparatio	n	2 000
equipment		2 121
Nuts	546	2 182
Paper and paper products	1 705	2 568
Plastic containers	630	2 147
Refractory bricks, blocks	030	2 147
and tiles	11 549	8 846
Tyres, new (no.)	42 549	5 245
Vehicles and vessels (no.) -	42 349	3 243
Boats, ships etc.	15	6 540
Bulldozers, graders and	13	0.540
mobile plant	33	2 132
Cars	652	7 305
Forklifts etc.	10	2 168
Goods vehicles	809	9 385
	95	3 193
Special purpose vehicles	93	2 520
Wood pulp	40.777	
Wood pulp	49 777 614	40 074 3 669
Wool (b) Restricted items (c)	014	
Restricted items (c)		3 393
Other items		80 532
Total		348 647

⁽a) In tonnes unless specified. Caution should be exercised with this figure as not all items, even within categories, can have a quantity assigned to them.

20.4 TASMANIAN PORTS

Tasmania has a number of ports capable of accommodating overseas vessels; they are situated on the Derwent and Huon rivers in the south (Hobart and Port Huon); in Spring Bay on the east coast; on the Tamar River in the north (Inspection Head, Long Reach and Bell Bay); on the Mersey River (Devonport), in Emu Bay, Burnie) and at Port Latta, all in the north-west.

All of these ports provide depths of approximately nine metre or more of water at berths. Port Latta provides a depth of 16 metres nearly one and a half kilometres off-shore.

There are four main Port Authorities servicing these areas. Interstate and intrastate trade passes through the main ports of Hobart, Launceston, Devonport and Burnie as well as through the smaller ports at Strahan, Stanley, Ulverstone, Currie (on King Island) and Lady Barron (on Flinders Island).

A feature of Tasmanian trade is that, whilst the main airports are controlled by the Federal Airports Corporation, the airports at Wynyard (Burnie) and Devonport are controlled by local Port Authorities, giving each of these Authorities responsibility for an integrated network.

20.10 TASMANIAN SEAPORT TRADE, 1988 - 89 (revenue tonnes)

Inwards	Outwards	Total	
1 516 778	1 819 167	3 335 945	
1 694 443	3 067 472	4 761 915	
967 968	1 006 997	1 974 965	
1 597 782	1 614 241	3 212 023	
5 776 971	7 507 877	13 284 848	
	1 516 778 1 694 443 967 968 1 597 782	1 516 778	

20.4.1 Hobart

The Hobart Marine Board controls about two thirds of Tasmania's coastline from Cape Portland on the north coast to Temma Harbour in the west. It is responsible for operations in the major ports of Hobart, Port Huon and Spring Bay (at Triabunna) as well as minor (mainly fishing) ports at Bicheno, Strahan, St Helens, Scamander and Dover, amongst others.

⁽b) Includes yarns and textiles.

⁽c) Comprises items for which details are not publishable.

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Port improvements, either under way or completed, include wharf improvements at Strahan, a freight forwarding facility, additional track for the gantry crane on Macquarie wharf and an increase in the capacity for handling refrigerated units (mainly for the fruit trade).

Hobart provides three roll-on, roll-off berths. five general cargo berths, two berths suitable for container operations or general cargo, a bulk wheat berth and a bulk petroleum berth. In addition there are two docks (Constitution and Victoria) for handling fishing vessels recreational craft and slipyard facilities for vessels of up to 1200 tonnes. Discussions continue on the possibility of a private floating dock being added to the port facilities. This would enable maintenance and repair to be undertaken on larger vessels engaged in pelagic fishing and Antarctic supply and would complement the possible use of Hobart as a main Antarctic entry point. Port Huon provides two general cargo and fruit handling berths and a woodchip berth. and Triabunna (Spring Bay) has a woodchip handling berth. Other private facilities also exist. The trade of boat building has recently been revived within the Hobart area with several large craft undergoing construction for international and local buyers.

20.4.2 Launceston

The Port of Launceston is situated on the Tamar River. At its mouth, deep water and broad expanses of river provide a valuable natural harbour. In this area, encompassing the anchorages of Bell Bay, Inspection Head and Long Reach, are located the major activities of the Port. A tidal range of up to 3.6 metres creates strong tidal currents which, by natural scouring, eliminate the need for any maintenance dredging in the lower reaches of the river.

A wide variety of functions are fulfilled within the Tamar River area. The Australian Maritime College has facilities at Beauty Point for training crew for fishing vessels and international and domestic shipping operators. Private firms in the area are engaged in the maintenance and construction of boats and recently the completion of an oil platform signalled a possible new industry for the State.

20.4.3 Devonport

The Port of Devonport is situated on the Mersey River within two kilometres of the coast. The entrance is sheltered by Mersey Bluff on the west and by a retaining wall extending over half a kilometre northward from the eastern shore of the river. The river was always a natural harbour for small craft and its development, by extensive dredging and engineering works, has resulted in a secure harbour for larger ships.

Although originally a general port, in recent years there has been a concentration on servicing a few major users, such as the TT Line's *Abel Tasman*, which carried 19.9 per cent of visitors to the State. In addition the building of cold stores, to facilitate the trade in vegetables, and bulk handling facilities for cement, have greatly increased the usage of the port.

20.4.4 Burnie

The ports of Hobart, Launceston and Devonport all lie within the shelter of rivers, but the Port of Burnie, on Emu Bay, was built out into the open sea in the lee of Blackman Point. Protection from the potentially rough waters of Bass Strait is afforded by two large breakwaters. Burnie is a deep-water port with no tidal restrictions, except occasionally for the larger vessels, and is virtually fog-free. It is available for operation 24 hours every day and vessels can be at full speed 20 minutes after departure. All wharves are connected to the State railway system as well as a private track from the west coast area.

The Burnie Port Authority recently completed a harbour deepening program to facilitate usage by large container ships and to enable increased shipments of mineral concentrates. Jones Pier was dredged to 11.5 metres and the bulk berth to 11 metres. Generally Burnie is the main Tasmanian port for container transhipment and it handles a large quantity of the interstate general goods trade.



Port of Burnie.

Photo: Advocate

20.5 INTERSTATE TRADE

As well as trading internationally, Tasmania trades very significantly with the mainland. For the 1987-88 financial year, this interstate trade represented 60.5 per cent of our exported production. Goods leave the State by both sea, and increasingly, air. Goods sent by air include mainly the newer, high value added, industries; pharmaceuticals, salmon and trout and other specialist foodstuffs. It is interesting to note, however, that with the increased use of just-intime stock control, more basic industrial goods

stoppages. Sea-trade, by a long standing agreement with maritime unions, has been exempted from industrial disputes in recognition of the vulnerable nature of Tasmania's economy. This vulnerability has been shown with the fall-out from a prolonged airlines dispute in 1989-90 with a decline in both tonnage and value being experienced in the September quarter air trade figures as compared to the figures for the previous year. The large number of small to medium sized businesses which failed during, or immediately after, this dispute can be at least partly blamed on their being cut off from their source of supplies or their markets.

20.11 QUANTITY OF INTERSTATE EXPORTS (EXCLUDING FOREIGN TRADE)(a) (tonnes) (b)

Airport of exit	Sept. 1988	Dec. 1988	Mar. 1989	June 1989	Sept. 1989	Dec. 1989
Launceston	1 111	1 575	989	899	827	956
Hobart	339	539	432	263	306	466
Other	82	248	132	226	61	53
Total	1 532	2 362	1 553	1 388	1 194	1 475

(a) Figures do not include: mail and parcel post, excess baggage, returns and non-valued items such as inter-plant transfers.

(b) Does not include the weight of those items aggregated by weight (eg oysters, clothing, footwear).

and even textiles, yarns, clothing and footwear (all of which have a high value per kilogram) are more effectively sent by air. This, of course, makes Tasmanian manufacture more dependent on uninterrupted traffic flow and vulnerable to

NOTE: Detailed figures on all of Tasmania's interstate trade are not kept. Some data can be obtained from Port Authorities and details of the expanding air export sector are available.

20.12 VALUE OF INTERSTATE EXPORTS (EXCLUDING FOREIGN TRADE) (\$'000)

Airport of exit	Sept. 1988	Dec. 1988	Mar. 1989	June 1989	Sept. 1989	Dec. 1989
Launceston	23 584	28 778	24 246	23 544	21 156	22 380
Hobart	7 377	9 813	7 270	5 493	4 965	7 963
Other	714	3 874	2 752	11 777	364	327
Total	31 675	42 469	34 268	40 814	26 485	30 671

20.13 VALUE OF INTERSTATE EXPORTS (EXCLUDING FOREIGN TRADE), BY AIR, TASMANIA (\$ '000)

Commodity	Sept. 1988	Dec. 1988	Mar. 1989	June 1989	Sept. 1989	Dec. 1989
Molluscs, shellfish, etc.	476	468	97	62	83	147
Crayfish	1 824	3 071	1 445	622	975	1 654
Trawlfish	388	435	130	11	47	70
Trout and salmon	1 304	3 608	3 044	1 215	826	3 067
Other fish	403	373	360	248	333	216
Meats	355	347	264	413	143	57
Other food, crude animal					143	37
and vegetable products	2 202	4 206	2 392	2 488	2 487	4 158
Metal manufactures	7 556	7 136	5 728	6 385	5 330	3 597
Printed matter	429	579	567	632	598	531
Textiles, yarns and					370	331
fabrics	7 345	12 210	12 275	19 652	6 095	7 900
Other manufactured goods (a)	9 391	10 037	7 966	9 086	9 569	9 274
Total	31 673	42 469	34 268	40 814	26 486	30 671

⁽a) Comprises items for which details are not publishable.

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Chapter 21

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Chapter 21

COMMERCE

Commerce makes an important contribution to the Tasmanian economy. In terms of Gross Domestic Product, the contribution of wholesale and retail trade is surpassed only by public administration, defence and community services, and manufacturing. But employment in commerce has grown much more slowly in Tasmania than in Australia as a whole in the 1980s.

The term 'commerce' is usually taken to cover wholesale and retail trade, and financial services such as banking and insurance. In terms of broad Australian Standard Industrial Classification (ASIC) division, the industries covered by 'commerce' are usually taken to be wholesale and retail trade (Division F), and finance, property and business services (Division I). At the two-digit ASIC sub-division, 'commerce' is taken to be wholesale trade (47), retail trade (48), finances and investment (61), insurance and services to insurance (62), and property and business services (63).

21.1 COMMERCE IN THE 1980s

(This section has been contributed by Dr Alf Hagger.)

21.1.1 Relative Importance

On the latest figures (1988-89), commerce contributes 17.1 per cent to Tasmania's Gross Domestic Product (GDP). Wholesale and retail trade contributes 12.8 per cent, and finance, property and business services 4.2 per cent.

In terms of GDP contribution, wholesale and retail trade is the State's third most important



In 1929, Wilson Street in Burnie was a centre of commercial activity.

Photo: The Advocate

broad ASIC sub-division (industry). Only the sub-divisions public administration, defence and community services (19.8 per cent GDP contribution) and manufacturing (also 19.8 per cent GDP contribution) are more important.

The finance, property and business services sub-division is at the other end of the scale. The only ASIC sub-divisions with a smaller GDP contribution are mining, recreation, personal and other services, and general government.

Wholesale and retail trade plays much the same role in the Tasmanian economy as it does in the Australian economy as a whole. In 1988-89 wholesale and retail trade contributed 15.2 per cent to Australia's GDP, compared with 12.8 for Tasmania.

The position of finance, property and business services is quite different. In 1988-89 finance contributed 8.7 per cent to Australia's GDP. The Tasmanian figure was only 4.2 per cent. In terms of GDP contribution, therefore, finance is roughly 100 per cent more important to the Australian economy than it is to the Tasmanian.

21.1.2 Growth

The best measure of growth in Tasmania's commerce sector would be the average annual percentage increase in the real, that is net of inflation, GDP of wholesale and retail trade, and finance, property and business services combined. Unfortunately no such measure can be calculated because there is no industry breakdown for Tasmania's real GDP.

The next best measure is the rate of growth of employment in the sector. Between August 1980 and August 1989 the average annual percentage increase in employment in wholesale and retail trade was 1.55 per cent per annum. The figure for finance, property and business services was 0.58 per cent per annum and the figure for commerce as a whole was 1.26 per

cent per annum. Over the same period, aggregate employment increased at the rate of 1.28 per cent per annum. Thus employment in finance, property and business services has increased less rapidly than aggregate employment. As a consequence, the industry's share of aggregate employment has declined. On the other hand employment in wholesale and retail trade has increased broadly in line with aggregate employment with the result that the industry's share of aggregate employment is roughly the same now as it was ten years ago.

Comparisons with the nation as a whole are also of interest. Since 1980 commerce has grown much more rapidly in the country as a whole than in Tasmania. Between August 1980 and August 1989 employment in wholesale and retail trade grew at an average rate of 2.6 per cent per annum in Australia compared with Tasmania's 1.6 per cent per annum. For finance, property and business services the comparison was 0.8 per cent per annum for Australia, and 0.6 per cent per annum for Tasmania.

During the 1980s female employment grew much more rapidly than male. In the commerce sector the growth rate of female employment over the period August 1980 to August 1989 was seven per cent per annum for wholesale and retail trade and 3.3 per cent per annum for finance, property and business services. The corresponding figures for male employment were 2.3 per cent per annum and 1.1 per cent per annum.

21.1 PROFESSIONAL AND BUSINESS SERVICES INDUSTRIES, TASMANIA, 1987-88

Industry	Enterprises	Employment	Wages and salaries (\$m)	Turn- over (\$m)	Net operating surplus/person employed
Legal services	86	1 280 (a)	11 (b)	56	15 200
Accounting services	120	988 (a)	7 (b)	33	8 100
Real estate agents	90	508 (c)	9	27	7 900
Architectural services	78	283	4	11	5 900
Surveying services	21	155	3	5	3 400
Engineering & technical services	77	264	5	15	10 000
Computing services	13	82	2	5	7 000
Advertising services	31	248	5	43	2 000
Debt collecting & credit reporting services	18	68	1	3	14 900
Pest control services	7	26	- (d)	1	10 100
Cleaning services Security/protection and	80	1 161	8	13	1 200
business services n.e.c.	15	171	3	6	6 000

(a) Includes employment of service enterprises dedicated to legal or accounting enterprises.

(b) Does not include wages and salaries of employees and proprietors of dedicated legal or accounting services enterprises. (c) Excludes those working purely on commission.

(d) Estimate from the survey too unreliable for most statistical purposes.

21.1.3 Regional Distribution

Recent Tasmanian Development Authority calculations based on the Australian Bureau of Statistics' integrated register of businesses show that, relative to population, the distribution of the commerce sector between regions is far from uniform.

For example, Burnie-Devonport's share of the State's retail and wholesale establishments is about 15 per cent higher than its share of the State's population. So is Launceston's. On the other hand, Hobart's establishment share is slightly below its population share.

In the case of financial establishments, both Hobart and Launceston have an establishment share some 25 per cent higher than their population share. On the other hand, Burnie-Devonport's establishment share is well below its population share.

Marked departures from uniformity exist even for highly aggregated regions.

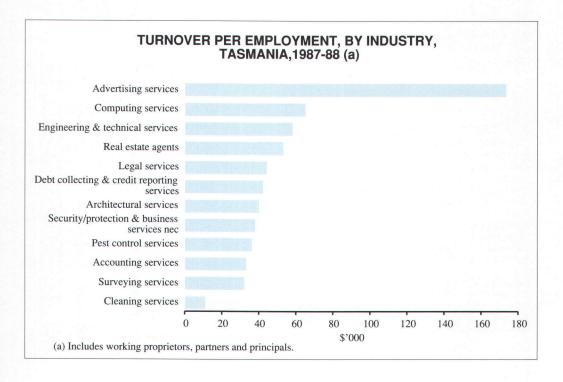
In the case of wholesale and retail trade, for example, the North-West and West Coast regions have an establishment share around five per cent higher, and the North-North-East region an establishment share a little over seven per cent higher than the respective population shares. On the other hand, in the case of the Southern region the establishment share is some seven per cent below the population share.

In finance, property and business services, the Southern region has an establishment share around 11 per cent higher, and the North-North-East region an establishment share one per cent higher than the respective population shares. By contrast, the North-West and West Coast regions' establishment share is around 23 per cent below the population share.

21.2 PROFESSIONAL AND BUSINESS SERVICES INDUSTRIES

In 1987, professional and business services industries in Tasmania employed about 5200 people, approximately 1.7 per cent of the total Australian employment of about 310 000 in the industries.

The legal services industry (including dedicated secretarial etc. services) had the larg-



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est employment, 1280, followed by the cleaning service industry with 1161.

The industry with the largest turnover per employment (that is, working proprietors, partners and principals, and employees) was the advertising industry (\$173 000), a long way ahead of the computing industry (\$65 000). The smallest turnover per employment was cleaning (\$11 000).

21.3 MOTOR VEHICLE HIRE AND TRAVEL AGENCY INDUSTRIES

An important part of the Tasmanian economy deals with tourism service industries of various types. Two that are important are the motor vehicle hire industry and the travel agency industry.

A survey conducted in 1986-87 of service industries gives important information on a number of relevant characteristics. The value of the motor vehicle hire industry to Tasmania - in terms of employment, and wages and salaries - is almost twice that of the travel agency industry. There were 209 people employed in the motor vehicle hire industry and 91 in the travel agency industry. The value of wages and salaries for the motor vehicle hire industry was \$2.7 million, and for the travel agency industry the value was \$1.4 million.

21.2 TRAVEL AGENCIES AND MOTOR VEHICLE HIRE INDUSTRIES, 1986-87

	Enter- prises	Employ- ment	Wages and salaries (\$m)	Turn- over (\$m)
Travel Agencies -				
Tasmania	23	91	1.4	2.6
Australia	1 494	11 632	191.5	428.8
Per cent	1.5	0.8	0.7	0.6
Motor Vehicle Hire	-			
Tasmania	17	209	2.7	15.3
Australia	281	3 173	54.8	288.8
Per cent	6.0	6.6	4.9	5.3

21.4 INSURANCE INDUSTRY

21.4.1 Insurance in the 1980s

Premiums

Insurance is a fact of life in today's society: most people, organisations and employers feel that the usually small amount of money paid periodically is worth the peace of mind that insurance cover brings. In addition, there is sometimes a legal obligation to insure, such as in the case of workers' compensation.

Often the first insurance people buy is motor vehicle insurance. Because cars are popular most households have at least one - and because the cost of motor vehicle replacement and repairs are so high, motor vehicle insurance is an important part of the insurance industry. In 1988, Tasmanians paid \$33.6 million in motor vehicle insurance premiums. This was two per cent of the Australian total of \$1712 million. The next biggest category of premiums paid was employers' liability (workers' compensation). Tasmanian employers spent \$26.5 million or 6.5 per cent of the Australian total. The reason for this high percentage Tasmanian contribution is that in other States, such as Queensland, workers' compensation premiums are a State government monopoly.

Claims

In Tasmania, motor vehicle insurance had the highest percentage of claims incurred relative to

21.3 EARNED PREMIUMS, PRIVATE SECTOR, DIRECT UNDERWRITERS, YEAR ENDED DECEMBER 1988

Class of insurance	Tasmania (\$m)	Australia (\$m)	%
Fire	5.9	352.6	1.7
Houseowners and			
householders	15.0	596.5	2.5
Contractors	0.4	28.5	1.2
Marine	3.5	202.4	1.7
Motor vehicle	33.6	1 712.0	2.0
Compulsory third party	12.7	131.5	-
Employers' liability	26.5	405.2	6.5
Public liability	4.6	421.7	1.1
Other	11.1	622.3	1.8
Total	100.6	4 472.7	2.2

premiums, 85.4 per cent in 1988. This was followed by workers' compensation at 84.6 per cent of premiums.

21.4 CLAIMS RELATIVE TO PREMIUMS, PRIVATE SECTOR, DIRECT UNDERWRITERS, YEAR ENDED DECEMBER 1988

Class of insurance	Tasmania (\$m)	%
Fire	4.0	68.6
Houseowners and		
householders	10.7	71.2
Contractors	0.2	55.1
Marine	2.3	63.8
Motor vehicle	28.7	85.4
Compulsory third party		
Employers' liability	22.4	84.6
Public liability	2.0	44.4
Other	6.7	60.1
Total	77.0	76.5

21.4.2 Superannuation

In June 1986, the Industrial Relations Commission ruled that it had the authority to arbitrate on superannuation claims. Since that time the level of coverage of employer-funded superannuation has increased. And over the past three years the effect of the three per cent superannuation ruling has been felt by employers and employees in most industry sectors.

In August 1983, a survey showed that 46.2 per cent of full-time employees were receiving a superannuation benefit. In August 1989 this proportion had increased to 54.7 per cent. Part-time employees also increased their cover, from 7.9 to 16.5 per cent over the same period.

For 1987-88, it was estimated that the total cost to Australian employers of providing superannuation benefits to employees was \$6.7 billion. This compares with \$5.5 billion for 1986-87. The cost to private sector employers in 1987-88 was \$2.97 billion compared with public sector contributions of \$3.72 billion.

In Tasmania in 1987-88, the private sector contributed \$65 million towards superannuation benefits for employees, up from \$49 million in 1986-87. Comparable figures for the public sector were \$78 and \$83 million, respectively. This

apparent drop in superannuation funding for the public sector is a result of changes in actuarial advice to contributing employers which can vary the amount put into superannuation funds from year to year.

In 1987-88, the average cost of superannuation per employee for private sector employers in Tasmania was \$639 compared with \$492 in 1986-87. Costs for public sector employers were \$1438 and \$1551 respectively. Superannuation made up 3.1 per cent of total labour costs per employee for private sector employers in Tasmania in 1987-88 compared with 5.7 per cent for public sector employers.

Results of a survey conducted in November 1988 show that of the estimated 7.30 million persons aged between 15 and 74 who were employed, 3.75 million (51 per cent) were covered by a superannuation scheme. A further 70 100 people, not employed in November 1988, had superannuation cover.

Amongst full-time workers, 63 per cent of males and 47 per cent of females had superannuation coverage. Fifty-seven per cent of employed persons aged between 25 and 64 had superannuation coverage. The highest coverage, 61 per cent, was for employed persons aged 45 to 54.

Industries with the highest proportion of fulltime workers covered by superannuation were communications (93 per cent), mining (88 per cent), electricity, gas and water (88 per cent), and public administration and defence (83 per cent). Industries with less than 50 per cent coverage were recreation, personal and other services (34 per cent), agriculture, fishing, forestry and hunting (38 per cent), and wholesale and retail trade (45 per cent).

Occupation groups with a high proportion of full-time workers covered by superannuation were professionals (69 per cent), para-professionals (63 per cent), plant and machine operators and drivers (58 per cent), managers and administrators (55 per cent) and tradespersons (54 per cent).

Sixty-two per cent (3.14 million) of full-time employees had superannuation coverage. Of these, 68 per cent of males and 49 per cent of females were covered and 62 per cent were in the private sector.

Employers paid all contributions towards a scheme for 14 per cent of their full-time employees. The contributions paid by full-time

The Hobart Stock Exchange*

Foundations

Without doubt it was the considerable mineral wealth of Tasmania that led to the founding of the Hobart Stock Exchange in February 1882. There were not enough industrial concerns to warrant a centre for trading, and in any case they were mostly small and privately owned, and therefore, unsuitable for public listing. But with mining it was different: there was a speculative element in it, a fascinating elan which made it so attractive.

No organisation could have got off to a more propitious start. The new exchange certainly did not sell itself cheap. It was obviously only too well aware of the considerable prestige of the great London Stock Exchange as well as those of the principal cities of Australia. There were initially but twelve members. Membership was fixed at 20 guineas - quite a sum for those days. There was one call per day,

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The Macquarie Street, Hobart, headquarters of the Australian Stock Exchange Limited.
Photo: Tasmap Photographics

promptly at 11 a.m., and transactions were strictly superintended.

It was an auspicious start and the brokers, both Hobart and interstate, responded with enthusiasm. They had reason to, for one of them disclosed confidentially to some of his friends that his turnover for several years exceeded that of the Colony's total revenue. The first decade of its life was one of which the youthful exchange was proud and its contribution to the economic life of Tasmania was recognised by the Parliament when it was recognised specifically as an incorporated body in November 1891.

In the 1890s the famous mountain-of-tin company, Mount Bischoff Tin Mining, attracted world-wide attention. It was paying at one period twenty shillings per share per month as a dividend. The shares rose to £100 each, and during its life the total dividend distribution exceeded £2 500 000.

In 1892 the exchange purchased the building known as Drysdale House in Collins Street. Membership of the exchange now stood at 90 members, and the purchase price of membership was 200 guineas. The whole climate was charged with enthusiasm; in the mining section alone there were more than 20 companies paying regular dividends.

Troublesome Times

The year 1892 saw the start of a disastrous depression in Australia which lasted well into 1894. Tin prices fell from £150 to £75 a ton, and silver prices, formerly 4/6 an ounce, dropped to 2/-. As the Tasmanian mining industry had a heavy dependence on each of these two metals the effect on the Hobart exchange was serious and transactions slowed to a trickle. Other Tasmanian exchanges at Launceston, Queenstown and Zeehan suffered as well.

But the exchange's problems did not end there, for the rich gold finds at Coolgardie and Kalgoorlie in Western Australia diverted attention from dealings in metals in Hobart. Business slumped and a number of brokers forfeited their seats, so that from a floating number of 80, the exchange dropped to some 40 members with only a few trading actively.

The Hobart Stock Exchange

- continued

The Exchange's Homes

The exchange took the drastic action of selling its property. The new owner was Mr George Adams of Tattersalls fame, and he bought the property for £4 300. The exchange, however, rented a room from the new owner and continued to function on the same site. The exchange stayed at that site for 40 years. There then followed several moves but on 12 December 1988 the Hobart Stock Exchange moved to new premises in Macquarie Street, just opposite the Tasmanian Museum and Art Gallery.

* This article is taken from The Hobart Stock Exchange, 100 years: 1882 to 1982.

New Technology**

While the Hobart Stock Exchange had a long and proud history, in 1987 together with the five other State exchanges it amalgamated into a single nationwide exchange now known as the Australian Stock Exchange Limited.

To keep abreast of new technology, the ASX undertook a massive modernisation of its computer hardware and systems as well as support services.

The computer based Australian Stock Exchange Automated Screen Trading System (SEATS) was introduced in 1987. This also brought with it the need for new settlement procedures between brokers irrespective of their geographical location. The Broker Broker Settlement System (BBS) now enables brokers prompt settlements irrespective of their business location. Additionally, the FAST (Flexible Accelerated Security Transfer System) has been launched to reduce delays in the processing of trades which is the initial stage of the ASX's development of a modern and internationally competitive settlement system.

There are now no technical barriers to ASX's extension into international trading.

**This update was provided by the Australian Stock Exchange Limited.

employees varied from between \$10 and \$24 for 38 per cent of contributors, and \$25 and over for 34 per cent of contributors. Twenty-three per cent paid between two and under four per cent of their earnings as their own contribution to a scheme; 31 per cent paid between four and under six per cent; and 13 per cent paid between six and under 10 per cent. The average weekly contribution, paid by an estimated 2.96 million persons aged 15 to 74, was \$28.

Of the 3.36 million employees covered by a superannuation scheme, 80 per cent reported that their scheme was provided by their current employer.

21.5 PRICES AND PRICE INDEXES

We are all acutely aware of price increases in the retail sector and the resultant reduction in our purchasing power. Continual price rises are greeted as the 'norm' and we are all experiencing a seemingly endless increase to our weekly shopping bill.

We can take little comfort in the fact that this upward movement of prices is occurring in most countries throughout the world. It is important that we maintain some measure of this continual price spiral.

There are a number of methods of measuring the overall movement in prices, the most common being the use of a retail price index. A retail price index enables us to compare the changing cost over time of a constant 'basket' of goods and services, the 'basket' representing a high proportion of the normal purchases of a specified community. Retail price indexes go back as far as the year 1901.

21.5 RETAIL PRICE INDEX NUMBERS, SIX STATE CAPITAL CITIES COMBINED

Year	Index number
1901	47
1911	53
1921	90
1951	167
1981	926
1988(a)	1 594

(a) Weighted average of eight capital cities.

The retail price index most commonly used is the Consumer Price Index.

21.5.1 Consumer Price Index

This is the householder's guide to price changes. It measures quarterly changes in the price of goods and services that account for a high proportion of expenditure by metropolitan wage and salary households. It is made up of eight main groups of expenditure items: food, clothing, housing, household equipment and operation, transportation, tobacco and alcohol, health and personal care, and recreation and education. Each of these groups is indexed separately for specific purposes or as is the usual practice, grouped together as a summary of the changes in prices affecting the wage earner's weekly expenditure.

21.6 CONSUMER PRICE INDEX, HOBART

Group	1980-81	1988-89
Food	100.0	181.5
Clothing	100.0	173.3
Housing	100.0	176.7
Household equipment		
and operation	100.0	179.3
Transportation	100.0	199.0
Tobacco and alcohol	100.0	226.7
Health and personal care	100.0	164.6
Recreation and education	100.0 (a)	165.9
All groups	100.0	185.3

(a) March quarter 1982 = 100.00.

All eight groups have shown steep increases during the 1980s - the increase of the weighted average for all groups was 85.3 per cent. Since 1980-81, the groups showing the greatest increase in Hobart were tobacco and alcohol (126.7 per cent), and transportation (99 per cent), while the health and personal care group (64.6 per cent) recorded the smallest increase.

The Consumer Price Index, (CPI), does not measure the 'cost of living'. It measures price changes in a 'basket of goods' that represent much of a wage and salary earner's expenditure. Expenditure patterns will vary from household to household just as standards of living vary considerably.

However, it is the most accurate measure of inflation as meaning an upward trend in the general internal price structure of an economy. To be strictly correct, though, no one index can be

regarded as the correct measure of inflation. That is why a number of indexes have been constructed, such as indexes of building materials and materials used in the manufacturing industry.

How then, has Hobart compared with mainland capital cities in recent years? The CPI increased in Hobart by 14 per cent between December 1987 and December 1989. The corresponding increase for the weighted average of all eight capital cities was 16 per cent. Hobart has, with the exception of the March quarter 1989, recorded a lower CPI increase than the eight capital cities in every quarter since December 1987.



21.5.2 Food Prices

Increases in food prices affect us all. The weekly supermarket visit never fails to surprise with an increase for one or two of our favourite delicacies. The food group of the CPI recorded an increase of 81.5 per cent between 1980-81 and 1988-89 in Hobart. The 1980s saw increases of over 100 per cent for such staples as bread, milk and butter, around 150 per cent for onions, and over 200 per cent for corn based breakfast cereal.

During 1988 the Tasmanian Government initiated an inquiry into retail prices in Tasmania, particularly in relation to other Australian States. This inquiry conducted by the Prices Inquiry Board concentrated on the retail prices of food and groceries and found that food prices in Hobart were eight per cent higher than the average of mainland capital cities. The board concluded that this difference was excessive and unreasonable and mainly due to higher petrol

prices, freight and distribution costs, advertising costs, payroll tax and the concentration of ownership of the food and grocery industry, in Tasmania.

21.7 AVERAGE RETAIL PRICES OF SELECTED FOOD ITEMS, HOBART (a) (b) (cents)

Item	Unit	1979	1989	Change (%)
Groceries, etc				
Bread, ordinary				
white sliced	680 g	57	120	111
Flour, self-raising	2 kg	110	203	85
Tea	250 g	80	152	90
Coffee, instant	150 g	270	485	80
Sugar	2 kg	85	206	142
Rice	1 kg	78	115	47
Breakfast cereal,				
corn based	500 g	82	253	209
Peaches, canned	825g	76	183	141
Potatoes	1 kg	40	83	108
Onions	1 kg	53	133	151
Dairy produce, etc				
Butter	500 g	95	198	108
Margarine, table,				
poly-unsaturated	500 g	92	145	58
Eggs	1 doz			
	(52 g min.)	139	229	65
Bacon, rashers,				
pre-pack	250 g	150	292	95
Milk, fresh, cartons,	2-600			
delivered	ml	49	120	145
Meat-				
Beef-				
Rump steak	1 kg	580	985	70
Silverside, corned	1 kg	380	633	67
Lamb-				
Leg	1 kg	333	470	41
Loin chops	1 kg	349	582	67
Pork, leg	1 kg	415	667	61

⁽a) The table units are not necessarily those for which the original price data were obtained; in such cases, prices have been calculated for the table unit.

21.5.3 House Prices

House prices have experienced an unprecedented upward movement in the 1980s with most parts of Australia being affected to a greater or lesser degree.

Hobart has been no exception with price increases of 21.8 per cent for established houses and 20.4 per cent for construction of project

homes in the three year period from September 1986 to September 1989.

The increase in Hobart is however, dwarfed in comparison to that recorded for the same three year period in Sydney. Sydney recorded a massive 88.3 per cent price increase for established houses and a price increase of 50.7 per cent for the construction of project homes.

This increase in the cost of housing along with the higher mortgage interest rate levels of recent years has significantly increased the burden of house purchase or construction.

21.8 HOBART HOUSE PRICES

Quarter/Year	Estab- lished house prices (index numbers)		Project home prices (index numbers)	
Sept. 1986	100.0		100.0	
1987	102.5	2.5	104.8	4.8
1988	111.6	8.9	111.2	6.1
1989	121.8	9.1	120.4	8.3

21.5.4 Price of Building Materials

The price in Hobart of materials used in house building rose by 28.7 per cent between March 1986 and March 1990. This price movement was lower than that recorded for the weighted average of the six State capital cities of 35.8 per cent.

This same trend was evident in a companion survey which estimates the prices of materials used in constructions such as office blocks, car parks, flats and units, and supermarkets. Information from this survey, known as the 'other than house building materials' survey, showed a price increase of 29.2 per cent for Hobart compared with 37.5 per cent for the six State capital cities.

In this survey, information on the prices of a number of common construction materials are collected. These prices, which include those of ready mixed concrete, structural steel and aluminium windows, move in relation to such things as the price of raw materials, labour, and market forces. As these invariably change over

⁽b) Prices are the averages of the recorded prices for the four quarters of each calendar year.

time, it is useful for those involved in the construction industry to know of this movement, especially with construction projects which require a long period of months or years to complete. To cover these variations, 'rise and fall' clauses are inserted in building contracts. Often these clauses are based on information from these surveys.

21.9 SELECTED CONSTRUCTION MATERIALS PRICES, HOBART

Year ended	Per cent variation							
	Ready mixed concrete	Structural steel	Aluminium windows					
March 1985	4.7	3.1	6.0					
1986	8.8	23.3	6.8					
1987	3.1	3.7	8.9					
1988	-0.1	7.6	12.4					
1989	10.9	12.7	5.6					
1990	6.2	5.1	0.5					

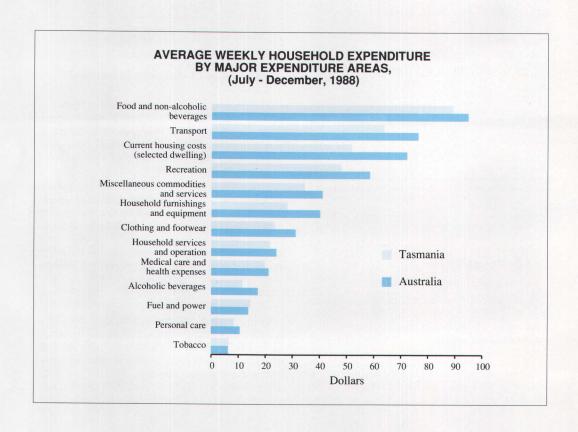
In Hobart, in the period March 1989 to March 1990 the price of ready mixed concrete increased by 6.2 per cent, structural steel by 5.1 per cent, and aluminium windows by 0.5 per cent.

21.6 HOUSEHOLD EXPENDITURE

Recent information from an Australia-wide survey of household expenditure for the last half of 1988 shows Tasmanian households spent an average of \$420.52 on commodities and services. For all Australian States and Territories the average was \$506.87.

Food, transport and housing were the major expenditure areas. Together for Tasmania, they totalled 48.5 per cent of all expenditure, which was slightly more than the equivalent percentage expenditure for Australia, 47.9 per cent.

The biggest single weekly expenditure difference between Australian and Tasmanian house-



holds was on current housing costs, \$51.51 for Tasmanian households and \$72.07 for Australian households. This was due to a number of factors, principally the lower cost of housing, and the larger percentage of households, relative to other States, of people who own their own home.

The next biggest expenditure difference was in the area of household furnishings and equipment. Tasmanians spent \$28.09 on average, whereas Australian households spent \$40.08.

Only in two areas, fuel and power, and tobacco products did Tasmanians on average spend more than the average for Australia.

Information from an earlier survey in 1984 together with the 1988 survey information enables a number of comparisons to be made. The percentage difference in the total of average expenditures was 34.8 per cent, from \$311.90 in 1984 to \$420.52 in 1988.

The biggest percentage points increases were in medical care and health expenses (73.8 per cent), and household services and operation (65.1 per cent). The smallest percentage change was 0.1 per cent for clothing and footwear.

21.10 HOUSEHOLD EXPENDITURE, TASMANIA

Commodity or service	1984 (\$)	1988 (\$)	Change (%)
	(4)	(4)	(/ 0 /
Current housing costs			
(selected dwellings)	39.04	51.51	31.9
Fuel and power	10.91	14.54	33.3
Food and non-alcoholic			
beverages	62.80	89.06	41.8
Alcoholic beverages	9.45	11.61	22.9
Tobacco	5.56	6.60	18.7
Clothing and footwear	23.18	23.20	0.1
Household furnishings			
and equipment	23.93	28.09	17.4
Household services			
and operation	13.16	21.73	65.1
Medical care and health			
expenses	11.40	19.81	73.8
Transport	47.59	63.64	33.7
Recreation	41.01	47.96	16.9
Personal care	5.70	8.43	47.9
Miscellaneous commodit	es		
and services	18.17	34.35	89.0
Total	311.90	420.52	34.8

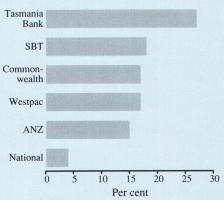
Tasmania Bank*

On 1 September 1987 the Tasmania Bank was created. Its creation arose out of a merger between two of Tasmania's - and Australia's - oldest financial institutions, the Launceston Bank for Savings (established in 1835), and the Tasmanian Permanent Building Society (established in 1858).

As at 31 August 1989, the Tasmania Bank had 40 branches, more than 700 staff (including part-time staff) and assets of more than \$800 million. Liabilities were approximately \$760 million.

In terms of bank deposits in Tasmania, the Tasmania Bank held 27 per cent of the total, the largest proportion of any bank in Tasmania.

COMBINED TASMANIAN BANK DEPOSITS



The Tasmania Bank comprises a number of divisions, Community Banking, Wholesale Banking, Treasury, and Finance and Administration. Community Banking is the foundation and, in many ways, the main public face of the organisation. It encompasses the branch network, electronic banking facilities, and marketing and advertising activities. Wholesale Banking division concentrates on the government, business, corporate, and rural sectors and their banking needs. The Treasury division has state of the art telecommunication and computing links with mainland and overseas financial markets. These facilities have proved especially useful to Tasmanian importers and exporters.

^{*} This was taken from the Tasmania Bank, Annual Report.

21.7 PRIVATE NEW CAPITAL EXPENDITURE

Capital expenditure is often a useful way of anticipating economic trends, especially if the capital expenditure can be matched against that which is necessary to maintain existing levels of production and employment. It is also a useful barometer of individuals' and enterprises' perceptions about future economic trends in their industry, that is, their perception of profitability some time in the future.

Private new capital expenditure refers to nongovernment money spent on the acquisition of new tangible assets. It includes money spent on all new buildings and structures, and on new plant, machinery, tools, vehicles, office equipment and furniture. It does not, however, include houses built by speculative builders, or money spent on renovations.

In the past few years, private new capital expenditure in Tasmania has been at a fairly low level with a peak of \$210 million in the June quarter 1989. This was about 2.7 per cent of total Australian private new capital expenditure. In the following two quarters there was a slump in private new capital expenditure. The main reasons for this appear to have been high interest rates and a protracted airline pilots' dispute, which resulted in business scaledowns and bankruptcies.

21.11 CAPITAL EXPENDITURE, TASMANIA

Quarter	Expenditure (\$m)	% of Aust. total		
1986 - March	77	1.8		
June	91	1.7		
September	87	1.6		
December	120	1.9		
1987 - March	83	1.7		
June	117	1.9		
September	130	2.8		
December	102	1.6		
1988 - March	109	2.0		
June	120	1.8		
September	127	2.1		
December	200	2.7		
1989 - March	198	3.1		
June	210	2.7		
September	95	1.3		
December	130	1.7		

21.8 REFERENCES

ABS Publications Produced by the Canberra Office:

Australian National Accounts, State Accounts, 1987-88, (5220.0), annual. Professional and Business Services, Summary Statistics, Australia, 1987-88, (8662.0), irregular.

Motor Vehicle Hire Industry, Australia, 1986-87, (8652.0), irregular.

Travel Agency Services Industry, Australia, 1986-87, (8653.0), irregular.

Major Labour Costs, Private Sector, Australia, 1986-87, (6348.0), irregular. Labour Costs, Australia, 1986-87, (6349.0),

Labour Costs, Australia, 1986-87, (6349.0), irregular.

Superannuation, Australia, November, 1988, (6319.0), irregular.

Consumer Price Index, (6401.0), quarterly. Average Retail Prices of Selected Items, Eight Capital Cities, (6403.0), quarterly. House Price Indexes: Eight Capital Cities,

(6416.0), quarterly.

Price Index of Materials used in Building other than House Building, Eight Capital Cities, (6407.0), monthly.

Price Index of Materials used in House Building, Six State Capital Cities and Canberra, (6408.0), monthly.

Household Expenditure Survey 1988-89, Australia, preliminary July to December 1988, (6528.0), irregular.

State Estimates of Private New Capital Expenditure, Actual and Expected Expenditure, (5646.0), quarterly.

Unpublished

Labour Force Estimates, ASIC x State, August 1980 and August 1989. Long Term Retail Prices Index. 1984 Household Expenditure Survey, Australia.

Other Publications:

General Insurance Group, Insurance and Superannuation Commission, Selected Statistics on the General Insurance Industry, year ended 31 December 1988. Tasmanian Government, Prices Inquiry Board Report, March 1989.

TASMANIAN STATISTICAL DIVISIONS

The State, for statistical purposes, is analysed by division which is basically a group of whole municipalities. The traditional Tasmanian statistical divisions, in use for over 50 years, were exposed to searching scrutiny in 1971 and the decision was taken to introduce a new structure, to be applied to statistics in respect of periods commencing on or after 1 July 1972.

History of Statistical Divisions

The groupings of administrative areas into divisions for statistical purposes can be found in annual volumes of the *Statistics of Tasmania* dating back to the nineteenth century. The administrative areas included: police districts, registration districts, electoral districts, and municipalities. The boundaries of these areas were subject to periodic changes. The *Local Government Act* 1906 provided a basis for the whole State coming under uniformly constituted local government and gradually the divisional grouping of administrative areas was confined, in official statistics, to municipalities. As a result of this Act, fixed local government area (municipality) boundaries were delineated in 1907 by a commission specially set up for the purpose. These boundaries remained generally unchanged from 1907, although there have been numerous relatively minor boundary changes, to 1919 when the old municipalities of 'Hobart', 'Queenborough' and 'New Town' were combined to form the new municipality of 'Hobart'.

In 1919, groupings of local government areas used were very similar to those still used in 1971; in some series Hobart, Launceston and Glenorchy were separately specified as components of an 'Urban Division' distinct from the region in which each was located.

The basis of these 1919 groupings can only be inferred since no specific criteria were specified in the records. The Western Division clearly combined the 'west coast' mining municipalities into one entity; the Southern Division seemed to be based on orcharding, small fruit and hop areas; while the South Eastern Division was allied more with pastoral and grazing areas. In short, the main determinant may well have been similarity of rural activity (with the Western Division a special case because of its mining activity).

After the 1966 population census, a new division was formed with the title Hobart Division, comparable with similar capital city divisions in other States; its boundaries were drawn wide enough to encompass the expected expansions of the inner urban area for a period of 20 to 30 years. Apart from this, the broad divisional structure in 1971 was very much the same as it had been in 1919.

In 1972 a new statistical division structure, using the three principal urban centres of influence as a basis, was designed. The three urban centres and their areas of influence were: Hobart - South and South-East; Launceston - North and North-East; and Burnie-Devonport - North-West and West. The following divisional structure was then adopted; with Hobart as focus - Hobart and Southern divisions; with Launceston as focus - Northern Division split into Tamar and North Eastern sub-divisions; and with Burnie-Devonport as focus - Mersey-Lyell Division split into North Western and Western sub-divisions.

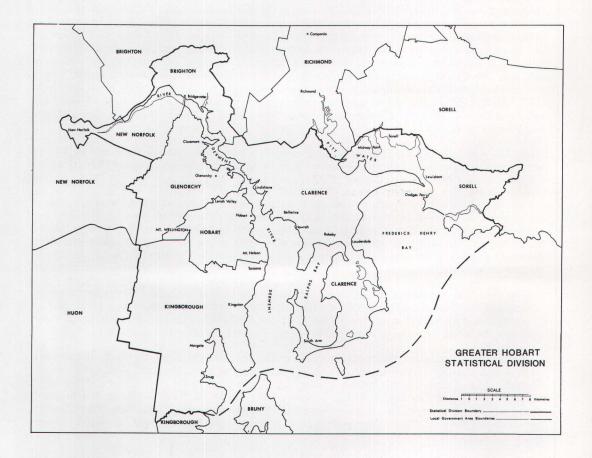
In July 1985 the old municipalities of 'St Leonards', 'Lilydale', and 'Launceston' amalgamated to form the new 'City of Launceston'. In July 1986 the west coast municipalities of 'Gormanston' and 'Queenstown' amalgamated to form the new municipality of 'Lyell'.

With the introduction of the Australian Standard Geographical Classification (ASGC), there were changes to statistical sub-divisions. The Tamar and North Western statistical sub-divisions ceased to exist. They are now represented by the Greater Launceston and Central North statistical sub-divisions, and Burnie-Devonport and North Western Rural statistical sub-divisions respectively.

Greater Hobart Division

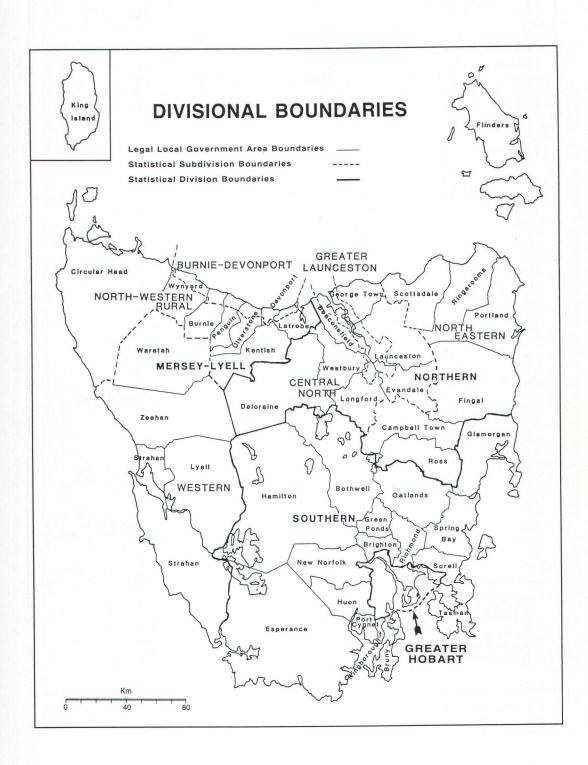
This Division comprises Hobart, Glenorchy and Clarence cities, and parts of four other municipalities: Brighton, Kingborough, New Norfolk, and Sorell. The Division is Tasmania's principal industrial region and the administrative focal point. The Greater Hobart Division boundaries were drawn wide enough to contain the expected outward growth of the inner urban area for a period of 20 to 30 years.

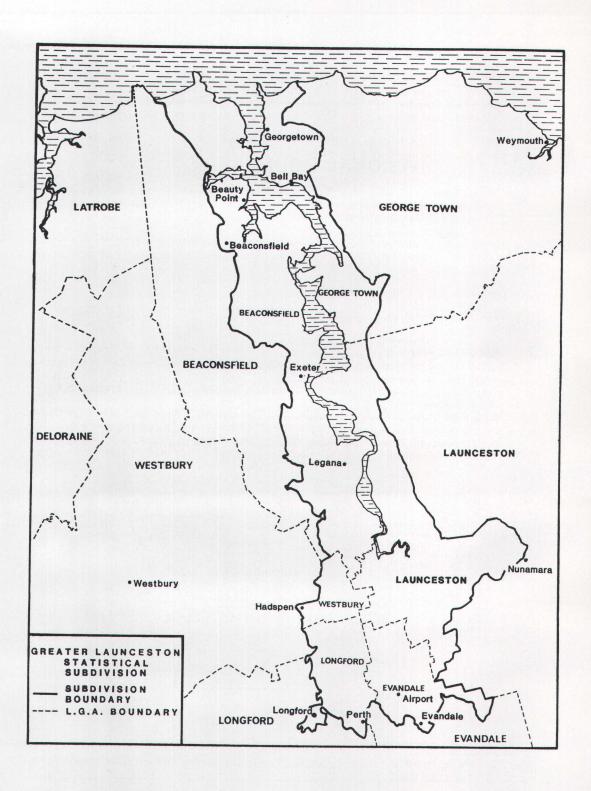
One important component of the Greater Hobart Division is Urban Hobart, defined as the densely settled contiguous parts of the cities of Hobart, Glenorchy and Clarence, and the municipality of Kingborough. The boundaries of Urban Hobart and of the Greater Hobart Division do not conform with borders defining local government areas.



Southern Division

Comprises the southern local government authority areas which have Hobart as their urban focus. Predominant activities include orcharding, sheep and cattle grazing, forestry and timber processing.





Northern Division

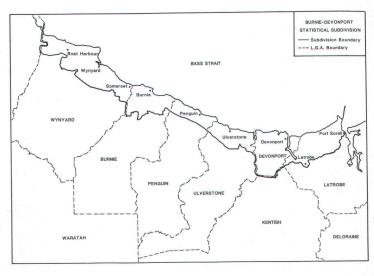
The Northern Division is the region with Launceston as its urban focus.

- (i) Greater Launceston Statistical Sub-division: A new boundary delineating the Launceston Statistical District was drawn for the purpose of presenting results of the 1976 Population Census. The boundary was drawn to contain the area of expected urban growth over the next two decades and includes the City of Launceston and parts of five other municipalities.
 - *Urban Launceston* is defined for statistical purposes as the City of Launceston plus the contiguous urban parts of the Evandale, Westbury and Beaconsfield municipalities.
- (ii) Central North Statistical Sub-division: This region comprises the Tamar Valley, parts of the City of Launceston and inland to Longford and Deloraine. It includes several major manufacturing industries, port facilities of the northern region and agricultural, pastoral, dairying and forestry industries.
- (iii) North-Eastern Statistical Sub-division: This comprises the outer seven municipalities of the Northern Division. Principal activities include agriculture, dairying, sheep and cattle grazing, forestry and some mining.

Mersey-Lyell Division

This division encompasses the north-west and western portions of the State. The region has a twin urban focus of Burnie-Devonport.

- (i) Burnie-Devonport Statistical Sub-division: As with the Launceston Statistical District the Burnie-Devonport Statistical District was drawn to contain the area of expected urban growth over the next two decades. It includes the whole of the City of Devonport and parts of the City of Burnie and the municipalities of Wynyard, Penguin, Ulverstone and Latrobe.
- (ii) North-Western Rural Statistical Sub-division: This comprises the municipalities stretching along Bass Strait from Latrobe to Circular Head plus part of the City of Burnie as well as the municipalities of Kentish and King Island. The sub-division includes several major manufacturing industries and is a principal agricultural, pastoral, dairying and forestry area for the State.



(iii) Western Statistical Sub-division: Contains Tasmania's western municipalities where mining activities predominate.

STATISTICAL SUMMARY

In the following pages, an historical summary of the more important statistics available that relate to Tasmania is shown. Only brief footnotes have been included and readers should refer to publications listed in 'references' at the end of each relevant chapter. Naturally, the range of statistics for early years is very limited. Also, it should be borne in mind that perfect comparability over long periods of time is difficult to attain due to changes in definitions,

scope of statistical collections, etc. While major breaks in series are shown, minor changes to series are not indicated and the statistics should be interpreted with this in mind.

Generally, the first year shown on each page is the earliest for which any series on that page is available. Due to space constraints, earlier details for some series are given only for either every five or ten years.

(Chapter 5)

Local Government Finance, Tasmania

	Value o	f rateable proper	ty	ordinary	ue Fund service and indertakings	Loan Fund
Year	Land value (a)(b)(c)	Total capital value (a)(b)	Assessed annual value	Revenue (d)	Expend- iture (d)	Total debt (b)
	\$ million	\$ million	\$ million	\$'000	\$'000	\$'000
1929-30	46.17 46.16 50.73	101.40 109.82 134.70	5.51 6.10 9.02	1 954 2 174 3 694	1 956 2 192 3 696	6 502 6 712 7 219
1950-51 1951-52 1952-53 1953-54 1954-55 1955-56 1956-57 1957-58 1958-59 1959-60	55.86 63.43 69.93 74.31 83.58 93.84 130.13 140.55 164.66 179.03	155.35 187.66 224.91 252.69 296.37 345.27 495.31 553.90 653.48 739.35	10.24 11.43 12.87 13.84 15.88 15.56 25.42 28.23 33.41 37.31	4 283 5 357 6 024 6 641 6 972 6 386 7 417 7 998 8 837 9 781	4 327 5 351 6 048 6 506 7 053 6 596 7 261 7 904 8 837 9 762	8 534 10 453 11 900 13 600 15 603 (e) 15 389 16 967 20 192 22 979 27 144
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68 1968-69 1969-70	185.93 193.52 216.01 271.63 290.52 328.50 329.14 351.66 375.02 412.71	808.21 870.08 942.88 1 075.09 1 140.40 1 202.22 1 271.87 1 350.44 1 452.38 1 571.96	40.04 42.89 48.62 57.51 61.27 68.54 72.47 86.35 95.57 102.98	10 867 12 097 13 765 14 792 16 250 17 395 19 594 21 235 23 478 25 914	10 924 11 779 13 256 14 654 16 176 17 085 19 068 20 858 22 790 24 816	31 285 36 181 39 842 44 063 48 368 52 844 57 611 62 821 66 922 71 854
1970-71 1971-72 1972-73 1973-74 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80	442.45 455.06 484.13 512.73 620.86 696.81 932.13 1 155.61 1 401.17 1 865.19	1 691.37 1 768.07 1 874.17 1 995.91 2 317.03 2 570.15 2 902.51 3 531.99 4 241.72 5 678.18	107.78 114.86 124.61 147.41 165.47 185.36 218.86 260.11 344.62 397.69	28 236 31 505 37 000 40 376 52 313 68 345 76 376 82 607 92 130 112 077	27 195 30 985 34 552 38 381 51 830 65 118 69 204 77 476 86 286 113 171	75 752 79 907 84 781 89 766 97 892 109 655 122 950 136 366 149 934 157 300
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88	2 597.54 2 781.48 2 985.07 3 207.60 3 464.80	6 448.32 7 055.27 7 701.97 8 177.92 8 788.26 9 511.20 10 271.90 11 315.40	435.46 480.36 524.66 589.70 666.97 r 667.00 720.30 801.50	121 769 137 432 161 945 185 765 195 654 r 215 923 228 530 248 305	116 239 137 549 161 078 180 764 184 930 r 204 657 220 708 237 487	165 832 171 755 174 624 175 472 176 588 r 181 623 192 283 202 975

(a) State Government valuation. (b) At 1 July. (c) Prior to 1977-78 figures are 'unimproved capital value'. (d) Excludes loans. (e) As from 1955-56, the loan debt of Hobart and Launceston Corporations for tramways has been excluded and treated as a direct liability of the Metropolitan Transport Trust.

(Chapter 5)

Gross and Net Loan Expenditure, Tasmania

Year	Gross expend- iture	Net expend- iture	Revenue deficit funded (a)	Net loan expend- iture per head of population	Year	Gross expend- iture	Net expend- iture	Revenue deficit funded (a)	Net loan expend- iture per head of population
	\$'000	\$'000	\$'000	\$		\$'000	\$'000	\$'000	\$
1900 to									
1904-05 (b)	543	473	1 1 2 2	2.68	1969-70 1970-71	49 411 52 079	45 069 47 393		116.67 121.75
1914-15 (b)	1 147	1 039		5.40	1971-72	73 037	66 268	4 350	169.22
1920-21	6 181	5 435		25.68	1972-73	76 813	67 243	2 378	170.67
1930-31		(c) 1 651		7.40	1973-74	73 947	64 603	3 805	162.60
1050 51	4 231 30 802	2 268	363	9.40	1974-75	90 060	76 056	7 282	189.15
1950-51	30 802	27 465	402	96.86	1975-76	98 818	81 369		200.32
1960-61	33 865	30 611		07.20	1976-77	126 223	110 085	9 399	265.26
1961-62	32 521	30 088	112	87.38 84.60	1977-78	123 459	104 732	1.050	250.80
1962-63	33 332	30 511	113	84.58	1978-79 1979-80	122 451 121 805	99 074 92 214	1 250	235.44
1963-64	35 354	32 905	161	90.32	1979-80	121 805	92 214		217.69
1964-65	35 816	33 352	101	90.65	1980-81	114 790	90 579	6 057	212.03
1965-66	39 411	36 573		98.46	1981-82	104 436	82 606	7 133	192.20
1966-67	40 161	36 636	306	98.15	1982-83	131 845	94 379	34 397	218.17
1967-68	46 054	42 128	1 132	111.62	1983-84	111 074	84 886	4 000	194.11
1968-69	44 458	40 164	1 762	105.02	1984-85	135 908	90 828	5 644	205.45
					1985-86	153 827	n.a.	n.a.	n.a.

(Chapter 5)

Aggregate Net Loan Expenditure and Public Debt, Tasmania

		Aggi	regate net lo	an expenditu	ire to end	of year				
			Purpe	ose		11-11-11		Public	Annual	
Year	Railways and transport	Hydro- electric works	Roads, bridges, harbours	School buildings and university	Housing advances and construc- tion	Other	Total	debt at end of year (a) (at mint par of exchange)	liability of rates of Amount	exchange Average
War Tall	\$'000	\$'000	\$,000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	rate %
1890	6 508 7 820 8 866 11 702 13 866 14 520 20 958	3 994 7 692 13 018 40 448	3 354 5 352 7 258 10 390 13 540 14 412 16 214	238 334 488 848 1 312 1 986	206 412 902	2 282 2 986 5 034 12 302 16 568 19 392	12 382 16 492 21 646 39 442 53 390 64 230	12 866 17 022 22 156 37 552 46 778 56 332	n.a. n.a. n.a. n.a. n.a. n.a.	n.a. n.a n.a. n.a. n.a. n.a.
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68 1968-69	31 126 31 418 31 296 34 410 34 984 35 789 36 088 36 910 37 170 40 503	181 578 195 206 208 706 202 905 239 419 255 919 273 919 293 919 314 644 337 769	35 076 39 144 42 942 47 704 51 171 55 593 57 486 58 774 59 563 60 686	4 694 27 266 30 450 34 048 38 342 42 395 46 832 50 858 54 964 59 387 64 853	9 946 29 536 29 190 28 990 28 577 28 244 27 970 27 692 27 217 27 230 26 469	33 468 87 422 96 684 106 621 113 570 122 653 133 325 146 021 162 408 176 586 189 370	125 728 392 004 422 092 452 603 485 508 518 866 555 428 592 064 634 192 674 580 719 650	114 066 354 558 379 252 404 594 432 311 462 302 491 658 524 918 560 893 599 736 637 407	n.a. n.a. 17 064 19 523 19 790 21 706 23 987 25 940 27 777 30 040 32 939	3.1977 4.3845 4.3948 4.4585 4.4634 4.5890 4.7693 4.8432 4.8879 4.9517 5.1163
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80	42 169 47 199 58 643 67 609 81 033 (b) 15 186 13 714 14 730 15 466 16 033	362 269 388 269 410 629 433 629 456 854 486 554 517 554 540 554 557 204 569 879	61 706 62 636 63 176 63 886 64 504 65 559 71 407 75 526 80 526 85 338	70 544 78 952 90 753 102 567 114 219 132 917 156 939 178 496 197 373 215 364	26 104 31 497 36 837 36 228 35 771 37 475 34 014 42 558 48 754 58 922	204 250 224 757 240 516 261 248 288 832 370 933 417 616 469 324 515 499	767 042 833 310 900 554 965 167 1 041 213 1 054 383 1 164 561 1 269 481 1 368 648 1 461 035	665 397 705 271 749 583 787 618 833 862 753 797 811 012 870 097 922 559 969 948	36 203 39 202 41 620 45 922 49 005 53 748 60 437 68 233 73 604 80 205	5.3928 5.5220 5.5300 5.8300 6.4100 7.1300 7.4500 7.8400 7.9783 8.2690
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1988-89	16 136 16 239 17 207 19 398 28 988 n.a. n.a. n.a.	581 179 604 979 589 979 589 979 569 979 n.a. n.a. n.a.	89 618 93 156 98 054 102 883 119 593 n.a. n.a. n.a.	230 191 236 320 252 777 270 511 290 913 n.a. n.a. n.a.	67 759 78 113 82 788 82 122 81 418 n.a. n.a. n.a.	568 297 609 374 695 466 760 135 831 039 n.a. n.a. n.a.	1 553 180 1 638 181 1 736 271 1 825 028 1 921 930 n.a. n.a. n.a.	1 020 804 1 071 606 1 114 397 1 154 510 1 200 687	91 494 105 333 116 405 124 349 133 617 r 143 944 154 099 162 033 178 413	8.9630 9.8295 10.4456 10.7707 11.1284 11.3199 11.5128 11.6161 11.8170

⁽a) These amounts are included in both Gross and Net Loan Expenditure. The figures shown are a complete record of funded deficits since 1900. (b) Annual average for the five-yearly period shown. (c) Includes \$1 233 000, the amount re-appropriated to provide for certain deferred revenue charges.

⁽a) Expenditure under Commonwealth and State Housing Agreements is excluded from Public Debt.(b) The Tasmanian Government Railways were taken over by the Australian National Railways Commission from 1 July 1975.

Consolidated Revenue Fund: Revenue and Expenditure, Tasmania (a) (\$'000) (Chapter 5)

Year	Revenue	Expenditure	Budget result	Aggregate net deficit at end of year
1891 1901 1910-11 1911-12 1912-13 (b) 1913-14 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1929-30	1 889 1 652 1 940 2 169 2 413 2 476 2 488 2 753 2 739 3 006 3 164 3 630 5 379	1 827 1 741 2 034 2 129 2 192 2 470 2 768 2 681 2 826 2 919 3 289 3 657 5 430	+63 -89 -94 +40 +221 +6 -280 +72 -87 -125 -27 -51	497 487 490 450 229 223 503 432 519 432 557 584 1 451
1930-31 1931-32 1932-33 1933-34 1934-35 1935-36 1936-37 1937-38 1938-39 1938-39	5 219 4 771 5 044 5 396 5 744 6 235 6 977 7 280 7 230 6 111	5 709 5 314 5 155 5 492 5 983 6 495 6 887 7 266 7 281 6 106	-490 -543 -110 -95 -238 -259 +90 +14 -52 +5	1 942 2 485 2 596 2 691 2 930 3 189 3 099 3 086 3 138 3 133
1940-41 1941-42 1942-43 1943-44 1944-45 1945-46 1946-47 1947-48 1948-49 1948-49	5 843 6 717 6 581 6 997 7 313 7 867 9 014 10 156 11 288 13 882	6 206 6 714 6 800 6 937 7 351 8 068 9 147 10 204 11 691 14 165	-363 +3 -219 +60 -38 -201 -132 -48 -402 -283	3 496 3 493 3 712 3 651 3 690 3 891 4 023 4 071 4 473 4 756
1950-51 1951-52 1952-53 1953-54 1954-55 1955-56 1955-57 1957-58	15 831 20 386 22 922 26 502 29 877 34 389 37 889 43 210 45 520 50 542	16 324 21 490 23 526 26 840 30 614 35 792 39 543 43 228 45 518 59 657	-493 -1 104 -604 -338 -737 -1 403 -1 655 -18 +2 -114	5 249 6 353 6 957 7 294 8 032 9 434 11 089 11 107 11 105 11 219
1960-61 1961-62 1962-63 1963-64 1963-64 1965-66 1966-67 1967-68 1968-69	54 054 61 191 64 018 69 167 76 012 84 453 91 486 100 463 109 526 120 619	54 167 61 352 64 019 69 021 76 465 85 585 93 248 102 413 111 540 121 004	-113 -161 +147 -452 -1 132 -1 762 -1 951 -2 015 -385	11 332 11 493 11 493 11 346 11 799 12 931 14 693 16 644 18 659 19 044
1970-71 1971-72 1972-73 1973-74 1973-75 1975-76 1976-77 1977-78 1978-79	135 829 156 432 181 866 206 947 268 522 322 091 396 617 444 263 495 822 560 192	138 207 160 237 185 998 210 097 282 065 317 947 395 033 450 706 492 961 563 917	-2 378 -3 805 -4 132 -3 150 -13 544 +4 144 +1 583 -6 443 +2 861 -3 725	21 422 25 226 29 358 32 508 46 052 41 908 41 908 48 351 45 490 49 214
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86	620 307 683 231 764 990 853 107 953 209 1 204 697	627 441 717 628 772 735 855 006 952 922 1 036 954	-7 133 -34 397 -7 745 -1 899 +286 -12 257	56 348 90 745 98 490 100 389 100 103 112 360

⁽a) From 1947-48 until 1971-72, the items 'Revenue' and 'Budget result' are shown adjusted according to the Special Grant Adjustment. (b) System of annual Commonwealth Special Grants introduced.

(Chapter 6)

Summary of Population at Census Dates, Tasmania (a) (b)

		-									
Particulars		April 1921	June 1933	June 1947	June 1954	June 1961	June 1966	June 1971	June 1976	June 1981	June 1986
Population -									46-7-15-1		
Males	no.	107 743	115 097	129 244	157 129	177 628	187 390	196 442	201 512	208 641	216 480
Females	no.	106 037	112 502	127 834	151 623	172 712	184 045	193 971	201 356	210 316	219 87
Persons	no.	213 780	227 599	257 078	308 752	350 340	371 435	390 413	402 868	418 957	436 353
per 100 females)	no.	102	102	101	104	103	102	101	100	99	98
Average annual increase since previous Cen	sus -										
Males	%	1.0	0.6	0.8	2.8	1.8	1.1	1.0	0.5	0.7	0.
Females	%	1.3	0.5	0.9	2.5	1.9	1.3	1.0	0.8	0.9	0.
Persons	%	1.1	0.5	0.9	2.7	1.8	1.2	1.0	0.6	0.8	0.3
Age distribution of population -											
Under 16 years	no.	77 654	73 030	77 483	102 171	123 331	127 379	129 307	124 267	116 942	114 84:
16 years and and of 65	%	36.3	32.1	30.1	33.1	35.2	34.3	33.1	30.8	28.0	26.
16 years and under 65 years	no.	126 055	138 515	159 925	183 230	200 001	214 981	230 069	243 885	261 151	275 05
65 years and over	%	59.0 10 071	60.9	62.2	59.3	57.1	57.9	58.9	60.5	62.3	63.0
os years and over	no.	4.7	16 054 7.0	19 670 7.7	23 351 7.6	27 008 7.7	29 075 7.8	31 037 7.9	34 719 8.6	42 540 9.9	46 452
Religions of the population -							7.0	///	0.0	7.7	10.0
Church of England	no.	112 222	105 228	123 158	147 407	159 101	166 023	160 000	150 740	151 207	154 74
Methodist	no.	27 171	26 470	33 358	38 236	42 236	43 084	169 089 42 173	158 748 37 107	151 207 19 906	154 748
Catholic (c)	no.	35 465	33 189	39 844	53 042	63 993	71 089	77 250	75 092	78 143	80 479
Presbyterian	no.	14 796	13 194	12 644	15 607	16 757	17 498	17 281	14 899	11 575	12 084
Baptist	no.	5 332	4 666	5 374	6 293	7 227	7 759	8 039	7 940	7 965	8 092
Congregational	no.	4 543	3 963	4 007	4 425	4 193	4 530	4 134	3 266	1 790	1 241
Churches of Christ	no.	1 935	1 892	2 039	2 267	2 507	2 701	2 500	2 188	2 110	2 046
Protestant (undefined)	no.	2 271	1 979	1 661	2 157	1 975	1 924	4 243	3 455	5 217	3 034
Salvation Army	no.	1 357	1 142	1 612	1 815	2 316	2 661	3 176	2 880	3 202	3 437
Uniting Church (d) Other Christian	no.	2 507	2 520	4.510	0.000			100	-	17 668	36 724
Total Christian	no.	3 597 208 689	3 530 195 253	4 518 228 215	8 238	11 229	13 058	16 510	18 667	18 631	22 907
Non-Christian	no.	245	193 233	173	279 487 256	311 534 268	330 327 485	344 395	324 242	317 414	324 792
Indefinite	no.	520	373	797	796	1 766	2 275	561 993	779 2 223	1 263 11 162	1 967
No religion	no.	399	159	506	516	775	2 020	20 221	27 624	36 222	47 852
No reply	no.	3 927	31 727	27 387	27 697	35 997	36 328	24 243	47 998	52 896	59 363
Conjugal condition of the population - Never married -											
Under 15 years of age	no.	73 444	68 590	73 371	97 452	117 299	120 164	121 323	115 665	109 604	106 538
15 years of age and over	no.	54 297	61 009	53 912	54 890	58 039	64 365	65 213	70 229	80 067	87 728
Total never married	no.	127 741	129 599	127 283	152 342	175 338	184 529	186 536	185 894	189 671	194 266
Married	no.	76 482	86 014	114 625	139 801	157 110	167 421	181 855	185 056	189 442	196 070
Widowed	no.	8 874	10 954	12 933	14 030	15 563	16 959	18 621	19 340	21 362	22 241
Divorced	no.	118 565	416 616	1 319 918	2 002 577	2 329	2 526	3 401	5 868	10 855	15 214
	no.	303	010	918	311	(e)	(e)	(e)	(e)	(e)	(e)
Birthplaces of the population - Australia	no	196 268	215 212	247 270	202 401	217 470	225 502	250 150	261 966	271 624	206.005
New Zealand	no.	1 356	215 213 1 201	247 379 1 030	282 491 1 112	317 478	335 582 1 237	350 150	361 866	371 624	386 885
United Kingdom and Republic of	no.	1 330	1 201	1 050	1 112	1 128	1 23/	1 550	1 801	2 421	2 763
Ireland	no.	12 734	9 588	7 123	14 113	16 741	19 101	22 513	22 913	23 289	23 226
Netherlands	no.	9	11	13	2 340	3 556	3 367	3 183	2 916	3 008	2 973
Germany	no.	389	238	171	1 794	2 223	2 016	2 009	1 886	1 936	1 982
Italy	no.	37	92	64	974	1 536	1 448	1 485	1 423	1 343	1 259
Other European	no.	512	334	325	4 535	5 789	6 033	6 184	5 970	5 530	5 491
Other birthplace	no.	2 475	922	973	1 393	1 889	2 651	3 339	4 095	9 806	11 774

⁽a) Full-blood aboriginals excluded from census data prior to 1966.
(b) As recorded. Not adjusted for under-enumeration.
(c) Includes Catholic and Roman Catholic.
(d) The Uniting Church was formed in 1978 from members of the Congregational, Methodist and Presbyterian churches.
(e) Conjugal condition was allocated where this information was not stated.

Population, Tasmania

				Estimated pop	oulation (a)			Annual
Year	Total	Mean:	Mean:		Totals at 3	l December		Annual rate of
	at 30 June	year ended 30 June	year ended 31 Dec	Persons	Males	Females	Mascu- linity (b)	increase of popula- tion (c)
	no.	no.	no.	no.	no.	no.		per cent
1820 1825 1830 1833 1840 1845 1850 1855 1860	n.a. n.a. n.a. n.a. n.a. n.a. n.a. n.a.	n.a. n.a. n.a. n.a. n.a. n.a. n.a. n.a.	n.a. n.a. n.a. n.a. n.a. n.a. n.a. 88 752 93 111	5 400 14 192 24 279 40 172 45 999 64 291 68 870 69 962 89 821 93 967	n.a. 10 979 18 108 28 749 32 040 43 921 44 229 38 680 49 653 50 549	n.a. 3 213 6 171 11 423 13 959 20 370 24 641 31 282 40 168 43 418	n.a. 341.7 293.4 251.7 229.5 215.6 179.5 123.6 116.4	8.00 21.26 11.35 10.59 2.75 6.91 1.37 0.32 5.12 0.90
1870 (d)	n.a. n.a. n.a. n.a. n.a. n.a. n.a. 183 351 189 807 195 370	n.a. n.a. n.a. n.a. n.a. n.a. 183 834 190 792 196 320	100 038 104 000 113 648 127 763 143 224 153 701 172 631 184 478 191 005 196 238	100 886 103 739 114 790 128 860 144 787 154 895 172 900 186 385 193 803 197 536	53 517 54 678 60 568 67 712 76 453 80 485 89 763 95 947 98 866 98 653	47 369 49 061 54 222 61 148 68 334 74 410 83 137 90 438 94 937 98 883	113.0 111.4 111.7 110.7 111.9 108.2 108.0 106.1 104.1 99.8	1.44 0.55 2.02 2.33 2.38 1.35 2.21 1.52 0.79 0.38
1920	209 425 213 991 219 983 228 988 240 191 248 633 275 902	208 599 215 997 219 269 229 339 240 023 246 971 274 493	210 350 215 552 220 933 229 867 241 134 248 596 278 785	212 752 219 364 225 297 233 423 244 002 250 280 290 333	107 259 110 172 113 505 118 124 123 650 125 854 147 103	105 493 109 192 111 792 115 299 120 352 124 426 143 230	101.7 100.9 101.5 102.5 102.7 101.1 102.7	1.37 0.70 0.48 0.63 0.31 1.37 3.20
1951 1952 1953 1954 (d) 1955 1956 1957 1958 1959	286 193 296 299 304 080 308 752 314 092 318 470 326 130 333 066 339 376	283 526 293 340 302 529 309 416 312 694 318 309 324 666 332 046 338 628	288 294 298 361 306 318 311 055 315 565 321 039 328 435 335 382 341 423	301 787 309 558 316 465 319 218 324 919 331 340 338 807 343 898 351 349	153 721 157 702 161 305 162 393 165 356 168 695 172 186 174 465 178 109	148 066 151 856 155 160 156 825 159 563 162 645 166 621 169 433 173 240	103.8 103.8 104.0 103.6 103.6 103.7 103.8 103.0 102.8	3.95 2.57 2.23 0.87 1.79 1.98 2.25 1.50 2.17
1960	343 910 350 340 355 668 360 727 364 311 367 905 371 436 375 244 379 649 384 893	344 111 350 077 353 175 358 180 362 758 366 366 369 600 373 321 377 582 382 710	346 913 353 623 355 682 360 590 364 554 367 970 371 483 375 397 379 916 385 079	355 969 353 258 358 087 362 799 366 508 369 608 373 309 377 841 383 055 386 998	180 511 178 864 181 085 183 330 185 051 186 483 188 180 190 369 192 871 194 788	175 458 174 394 177 002 179 469 181 457 183 125 185 129 187 472 190 184 192 210	102.9 102.6 102.3 102.2 102.0 101.8 101.6 101.5 101.4	1.31 0.76 1.37 1.32 1.02 0.85 1.00 1.21 1.38 1.03
1970	387 720 398 100 400 300 403 100 406 200 410 100 412 300 415 000 417 600 420 800	386 665 (e) n.a. 399 400 401 800 404 600 408 300 411 300 413 700 416 500 419 200	388 180 (e) n.a. 400 500 403 200 406 300 410 000 412 400 415 100 417 800 420 700	390 253 399 500 401 900 404 600 408 800 411 500 413 700 416 500 419 100 422 200	196 363 200 600 201 600 202 800 204 600 205 900 206 900 208 300 209 600 210 700	193 890 198 900 200 300 201 800 204 200 205 600 206 800 208 300 209 600 211 600	101.3 100.4 100.6 100.5 100.2 100.1 100.0 100.0 99.6	0.84 (e) n.a. 0.60 0.67 1.04 0.66 0.53 0.68 0.62 0.74
1980	423 600 427 200 429 800 432 800 437 800 446 500 446 500 447 900 448 500 451 000	422 200 425 300 428 600 431 000 435 100 440 100 444 600 447 400 448 000 449 400	423 600 427 100 429 800 432 800 437 600 442 500 446 400 447 700 448 500 n.a.	425 200 428 300 431 000 435 100 440 100 444 600 447 700 447 800 449 300 n.a.	211 600 212 900 214 200 216 100 218 400 220 700 222 200 222 200 222 900 n.a.	213 600 215 300 216 800 219 000 221 700 223 900 225 400 225 600 226 300 n.a.	99.1 98.9 98.8 98.7 98.5 98.6 98.6 98.5 98.5	0.71 0.73 0.63 0.95 1.15 1.02 0.70 0.02 0.33 n.a.

⁽a) Prior to 1966 excludes Aboriginals. (b) Number of males per 100 females. (c) The rate of increase during the previous 12 months or, in the years prior to 1936, the average (compound) rate of increase during the previous five years. (d) Census year. (e) Not available due to change in series.

(Chapter 6)

Births, Deaths, Marriages and Divorces, Tasmania

		Nu	mber		Rate p	er 1 000 o population			under one r of age
Year	Births	Deaths	Marriages	Divorces	Births	Deaths	Marriages	Number	Rate per 1 000 live births
1830 1840 1845 1850 1855 1866 1865 1870	460 404 1 506 2 025 2 948 3 238 3 069 3 054 3 105	270 501 697 1 070 1 692 1 749 1 263 1 404 2 079	163 457 658 923 1 257 689 591 670 689	n.a. n.a. n.a. n.a. n.a. n.a. n.a.	n.a. n.a. n.a. n.a. n.a. 36.48 32.96 30.53 29.86	n.a. n.a. n.a. n.a. n.a. 19.71 13.56 14.03 19.99	n.a. n.a. n.a. n.a. 7.76 6.35 6.70 6.83	n.a. n.a. n.a. n.a. n.a. n.a. 298	n.a. n.a. n.a. n.a. n.a. n.a. 97.6
1880 1885 1890 1895 1900 1905 1910 1915 1920 1925	3 739 4 637 4 813 4 790 4 864 5 257 5 586 5 845 5 740 5 218	1 832 2 036 2 118 1 811 1 903 1 844 2 120 2 015 2 036 1 996	840 1 054 954 846 1 332 1 365 1 493 1 600 1 999 1 504	n.a. n.a. n.a. 5 4 2 6 7 18 37	32.90 36.29 33.60 31.16 28.18 28.50 29.25 29.79 27.29 24.21	16.12 15.94 14.79 11.78 11.02 10.00 11.10 10.27 9.68 9.26	7.39 8.25 6.66 5.50 7.72 7.40 7.82 8.15 9.50 6.98	420 522 508 391 389 424 568 423 376 288	112.3 112.6 105.6 81.6 80.0 80.7 101.7 72.4 65.5 55.2
1930 1935 1936 1937 1937 1938	4 786 4 456 4 581 4 841 4 907 5 004	1 948 2 353 2 387 2 225 2 288 2 426	1 450 1 875 2 073 2 042 2 082 2 264	42 87 62 30 109 80	21.66 19.39 19.79 20.65 20.76 20.95	8.82 10.24 10.31 9.49 9.68 10.16	6.56 8.16 8.96 8.71 8.81 9.48	242 231 227 202 195 203	50.6 51.8 49.6 41.7 39.7 40.6
1940 1941 1942 1943 1944 1945 1946 1947 1948 1949	4 994 5 206 5 305 5 597 5 200 5 785 6 847 7 140 6 979 7 110	2 387 2 575 2 430 2 527 2 494 2 413 2 549 2 363 2 528 2 389	2 476 2 150 2 431 2 102 1 935 1 868 2 650 2 584 2 428 2 422	83 84 83 89 115 172 219 210 185 266	20.71 21.66 22.00 23.05 21.17 23.27 27.15 27.71 26.49 26.30	9.90 10.71 10.08 10.41 10.15 9.71 10.11 9.17 9.60 8.84	10.27 8.94 10.08 8.66 7.88 7.51 10.51 10.03 9.22 8.96	176 255 255 227 199 159 207 195 193 170	35.2 49.0 42.4 40.6 38.3 27.5 30.2 27.3 27.7 23.9
1950 1951 1952 1953 1954 1955 1956 1957 1957 1958	7 242 7 357 7 916 7 736 7 770 8 089 8 104 8 435 8 568 8 625	2 466 2 567 2 579 2 551 2 696 2 489 2 513 2 670 2 708 2 780	2 560 2 607 2 553 2 424 2 512 2 600 2 601 2 507 2 475 2 567	152 194 217 210 238 233 197 180 176 222	25.96 25.52 26.53 25.25 24.98 25.63 25.24 25.68 25.55 25.26	8.85 8.93 8.64 8.33 8.67 7.89 7.83 8.13 8.07 8.14	9.18 9.04 8.56 7.91 8.08 8.24 8.10 7.63 7.38 7.52	172 196 172 177 186 189 170 170 167 202	23.8 26.6 21.7 22.9 23.9 23.4 21.0 20.2 19.5 23.4
1960 1961 1962 1963 1964 1965 1966 1967 1968	8 853 8 892 8 894 8 530 8 252 7 535 7 401 7 547 8 317 8 445	2 670 2 789 2 870 2 818 3 174 3 043 3 159 3 228 3 284 3 309	2 713 2 677 2 485 2 579 2 869 2 888 2 946 3 213 3 426 3 532	210 286 249 261 230 280 319 248 303 331	25.52 25.40 25.01 23.66 22.64 20.48 19.92 20.10 21.89 21.93	7.70 7.89 8.07 7.82 8.71 8.27 8.50 8.60 8.64 8.59	7.82 7.57 6.99 7.15 7.87 7.85 7.93 8.56 9.02 9.17	169 151 184 153 166 125 108 130 143 139	19.1 16.8 20.7 17.9 20.1 16.6 14.6 17.2 17.2
1970 1971 1972 1973 1974 1975 1976 1977 1978	8 185 8 321 7 824 7 326 7 398 6 982 6 702 6 735 6 788 6 757	3 174 3 295 3 227 3 347 3 484 3 339 3 389 3 269 3 271 3 167	3 535 3 578 3 426 3 395 3 567 3 242 3 477 3 166 3 148 3 245	426 432 446 444 536 591 1 761 1 134 1 132 1 167	21.09 21.32 19.94 18.51 18.52 17.26 16.44 16.40 16.41 16.17	8.16 8.44 8.22 8.46 8.72 8.26 8.32 7.96 8.00 7.58	9.11 9.17 8.73 8.58 8.93 8.02 8.53 7.71 7.61 7.79	116 114 127 137 123 128 77 99 97	14.2 13.7 16.2 18.7 16.6 18.3 11.5 14.7 14.3
1980 1981 1982 1983 1984 1985 1986 1987 1988	6 735 7 230 7 103 7 062 7 132 7 249 6 950 6 790 6 779	3 392 3 320 3 444 3 319 3 596 3 693 3 454 3 637 3 547	3 433 3 515 3 576 3 644 3 704 3 520 3 302 3 141 3 035	1 285 1 139 1 391 1 359 1 185 1 169 1 245 1 115 1 220	15.90 16.93 16.53 16.32 16.30 16.38 15.57 15.17	7.80 7.77 8.01 7.67 8.22 8.35 7.74 8.12 7.91	8.20 8.23 8.32 8.42 8.46 7.95 7.40 7.02 6.77	79 86 55 74 81 87 74 68	11.7 12.0 7.9 10.5 11.4 12.1 10.7 10.0 9.6

(Chapter 7)

Employment: Unemployment: Wage Rates amd Earnings, Tasmania

		Unemple	oyment		ed weekly wage adult males,		erage eekly
Year	Employed persons, labour force	Labour force	Persons receiving unemploy-		at 31 December Minimum	all emp	nings, male loyees une qtr
	survey (a)	survey (a)	ment benefits (b)	wage (c)	wage (d)	Amount (e)	Increase (f)
	('000)	('000)	no.	\$	\$	\$	per cent
1940				8.10		n.a.	n.a.
1941			 	8.50 9.20 9.50 9.40 9.40 10.30 10.70 11.80 12.80 16.00		n.a. 9.60 10.40 10.60 10.50 12.00 14.00 15.60 18.00	n.a. n.a. 8.3 1.9 -1.0 2.9 11.1 16.7 11.4 15.4
1951 1952 1953 1954 1955 1956 1957 1958 1959	n.a.	n.a.	10 104 323 109 52 71 410 639 670 522	19.90 23.00 24.20 24.20 24.20 25.20 26.20 26.70 28.20 28.20		22.10 27.10 28.80 30.60 33.60 35.30 36.60 37.50 37.60 41.50	22.8 22.6 6.3 6.3 9.8 5.1 3.7 2.5 0.3
1961 1962 1963 1964 1965 1966 1967 1968 1969	144.0 148.3 155.1 153.7	2.8 3.0 2.2 3.3 3.3	1 416 1 778 1 777 1 399 946 457 546 635 600 437	29.40 29.40 29.40 31.40 31.40 33.40 34.40 35.75 36.80 36.80	38.15 40.45 43.00 43.00	41.70 44.60 45.10 46.50 49.20 51.50 55.80 58.50 63.10 68.40	0.5 7.0 1.1 3.1 5.8 4.7 8.3 4.8 7.9 8.4
1971 1972 1973 1974 1975 1976	157.1 161.6 165.9 165.0 164.2	2.9 3.8 3.0 3.9 7.4 8.1 9.9	873 1 697 2 330 1 769 4 439 7 228 7 078	39.00 41.00 43.50 46.00 50.00 62.90 72.40	47.00 51.70 60.70 68.70 83.50 102.30 114.00	76.70 83.20 93.60 109.60 138.50 155.10 175.10	12.1 8.5 12.5 17.1 26.4 12.0 12.9
1978	172.9	11.0 7.9 9.8	9 757 10 420 11 121	77.50 (g) 80.00 87.10	121.90 (g) 125.80 137.00	190.10 204.20 234.70	8.6 7.4 14.9
1981 1982 1983 1984 1985 1986 1987 1988 1989	167.0 167.6 169.0 179.5 183.9 184.9	11.4 16.5 19.0 19.7 18.9 15.9 20.2 18.5 19.2	12 929 16 263 20 355 19 150 18 870 18 702 18 880 18 280 16 243	93.60 93.60 97.60 101.60 108.20 110.69 120.69 130.49 150.49	147.20 168.00 175.20 182.40 194.20 198.70 208.70 221.10 241.10	261.60 312.00 337.10 371.40 390.20 417.10 438.20 460.00 504.80	11.5 19.3 8.0 10.2 5.1 6.9 5.1 5.0 9.8

⁽a) At August each year to 1977, at June each year from 1978.
(b) Persons on benefit on last Friday of June. Unemployment Benefit was first paid in July, 1945. (Source: Department of Social Security.)
(c) The rates shown up to and including 1966 are those in Commonwealth awards. State Wages Boards awards are shown from 1967.

The Commonwealth and State rates prior to 1967 were identical except between 1956 and 1959 when the State's rates were slightly higher. (d) The Tasmanian Wages Boards introduced the concept of the minimum wage in June 1967.

⁽e) Based on the survey of average weekly earnings introduced in September quarter 1981. Amounts for June 1981 and earlier periods are estimated by linking the various pay-roll tax series with the new series at September quarter 1981.

⁽f) Over June quarter of previous year.
(g) Tasmanian decision of 13 July 1979 following National Wage Case decision of 27 June 1979.

(Chapter 12)

Passenger Arrivals and Departures, Tasmania (a)

Year	Arrivals	Departures	Year	Arrivals	Departures	Year	Arrivals	Departures
	no.	no.		no.	no.		no.	no.
1860 1865 1870 1875 1880 1885 1890 1895 1900 1910 1915 1920 1925 1930 1935 1940 1945 1946 1947 1947	3 597 5 982 6 535 10 411 14 822 29 517 18 767 23 056 31 116 35 377 39 767 34 829 40 227 40 291 (b) 51 672 n.a. (b) 24 (b) 49 920 112 666	2 782 3 691 5 936 8 083 10 034 15 228 29 086 19 357 25 479 33 311 38 159 44 764 43 757 41 110 42 912 (b) 53 644 n.a. (b) 159 (b) 40 833 110 490 113 232	1950 1951 1952 1953 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1964 1965 1966 1967 1968 1969	127 709 137 341 130 583 127 484 126 976 137 834 143 104 143 601 141 814 162 761 182 537 186 423 185 268 198 443 219 930 248 964 257 463 270 934 276 798 296 186	122 333 129 514 126 979 125 812 128 424 137 144 141 686 141 310 141 995 160 569 183 513 184 165 186 023 199 918 223 380 249 617 256 068 271 812 276 856 297 069	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1985 1987 1988	320 867 340 163 356 561 450 707 508 449 510 639 509 356 538 665 557 275 576 050 591 152 591 699 583 770 563 666 580 350 627 577 629 617 624 306 681 541 576 616	323 449 340 642 355 224 448 556 502 488 514 278 507 384 507 385 559 293 574 790 591 941 593 780 593 780 631 514 628 245 626 297 683 635 591 152

⁽a) Series of recorded interstate arrivals and departures prepared by State Department of Tourism replaces ABS series from 1972.

(Chapter 12)

Passenger Arrivals and Departures, Tasmania

Period		Arrivals			T-4-1	Cruise ships		
renou	В	y air	By sea	Total	Total departures	Arrivals	Departures	
	Interstate	New Zealand		Total	acpartares	71////	Departures	
1981	520 601	9 762	61 336	591 699	593 780	n.a.	n.a.	
1982	516 140	6 863	60 767	583 770	588 519	n.a.	n.a.	
1983	493 075	7 004	63 587	563 666	563 554	n.a.	n.a.	
1984	512 257	7 054	61 039	580 350	578 061	n.a.	n.a.	
1985	550 045	8 419	69 113	627 577	631 514	n.a.	n.a.	
1986	524 342	10 136	95 139	629 617	628 245	n.a.	n.a.	
1987	526 517	9 446	88 343	624 306	626 297	7 398	6 745	

Source: Department of Tourism.

(Chapter 8)

Religions of the Population at Census Dates, Tasmania (a)(b)

				San Prince		Census da	te				
Particulars		April 1921	June 1933	June 1947	June 1954	June 1961	June 1966	June 1971	June 1976	June 1981	June 1986
Church of England	no.	112 222	105 228	123 158	147 407	159 101	166 023	169 089	158 748	151 207	154 748
Methodist	no.	27 171	26 470	33 358	38 236	42 236	43 084	42 173	37 107	19 906	-
Catholic (c)	no.	35 465	33 189	39 844	53 042	63 993	71 089	77 250	75 092	78 143	80 479
Presbyterian	no.	14 796	13 194	12 644	15 607	16 757	17 498	17 281	14 899	11 575	12 084
C-in-	no.	5 332 4 543	4 666	5 374	6 293	7 227	7 759	8 039	7 940	7 965	8 092
CL 1 CCI	no.	1 935	3 963 1 892	4 007 2 039	4 425	4 193 2 507	4 530	4 134	3 266	1 790	1 241
Protestant (undefined)	no.	2 271	1 979	1 661	2 267 2 157	1 975	2 701 1 924	2 500 4 243	2 188 3 455	2 110 5 217	2 046 3 034
Salvation Army	no.	1 357	1 142	1 612	1 815	2 316	2 661	3 176	2 880	3 202	3 437
Uniting Church (d)	no.	1 557	1 142	1 012	1 013	2 310	2 001	3 170	2 000	17 668	36 724
Other Christian	no.	3 597	3 530	4 518	8 238	11 229	13 058	16 510	18 667	18 631	22 907
Total Christian	no.	208 689	195 253	228 215	279 487	311 534	330 327	344 395	324 242	317 414	324 792
Non-Christian	no.	245	87	173	256	268	485	561	779	1 263	1 967
Indefinite	no.	520	373	797	796	1 766	2 275	993	2 223	11 162	2 292
No religion	no.	399	159	506	516	775	2 020	20 221	27 624	36 222	47 852
No reply	no.	3 927	31 727	27 387	27 697	35 997	36 328	24 243	47 998	52 896	59 363

⁽b) Excludes troop movements.

⁽a) Full-blood aboriginals excluded from census data prior to 1966.
(b) As recorded. Not adjusted for under-enumeration.
(c) Includes Catholic and Roman Catholic.
(d) The Uniting Church was formed in 1978 from members of the Congregational, Methodist and Presbyterian churches.

(Chapter 9)

Education: Post Secondary and Tertiary, Tasmania

	Tas	manian State In of Technology		University				
Year	Teaching	Stu	dents	Teaching	Students			
	staff full-time	Full-time	Part-time	staff full-time	Full-time	Part-time		
1900				9		51		
1905				9		67		
1910				10		147		
1915				17		258		
1920				23		179		
1925				28		173		
1930				29		449		
1935				36		229		
1940				47		452		
1945				43		503		
1950				64		673 800		
1955				78				
1960				108		395		
1965	n.a.	n.a.	n.a.	145		300		
1970	53	238	896	202	2 260	864		
1975	203	1 748	687	280	2 314	1 085		
1976	206	1 824	818	293	2 468	1 068		
1977	201	1 836	750	298	2 685	840		
1978	210	1 855	941	309	2 514	1 003		
1979	204	1 893	934	301	2 377	1 058		
1980	196	1 806	1 120	301	2 344	1 173		
1981	123	957	1 125	373	3 189	1 893		
	129	929	1 251	372	3 078	2 132		
1000	141	1 042	1 492	359	3 101	2 128		
1984	146	1 124	1 575	359	3 243	2 145		
1221	141	1 144	1 468	376	3 397	2 050		
1002	141	1 278	1 540	367	3 479	2 289		
1000	144	1 487	1 274	363	3 457	1 786		
1988	n.a.	1 798	1 305	375	3 712	1 665		

(Chapter 9)

Education: Primary and Secondary, Tasmania

	Go	vernment school:	5	Non-government schools				
ear	Number of schools	Teaching staff	Students (a)	Number of schools	Teaching staff	Students (b)		
900	309	(c) 612	24 157	224	n.a.	9 749		
905	343	600	24 043	167	n.a.	8 323		
910	367	677	30 805	124	420	6 278		
915	457	968	35 812	92	322	5 944		
920	470	1 102	39 360	84	317	5 872		
925	515	1 315	39 910	75	312	6 103		
930	508	1 358	40 032	66	326	5 862		
	516	1 282	39 332	65	324	5 794		
935	431	1 398	37 369	63	329	6 139		
940			35 925	59	321	6 987		
945	356	1 511			375	8 330		
950	332	1 687	46 394	58	3/3	8 330		
955	291	2 277	60 779	57	424	10 454		
960	287	2 540	65 049	60	544	12 716		
965	296	(d) 3 243	71 615	64	666	14 688		
	283	3 756	79 385	68	810	14 623		
	247	4 247	74 332	58	717	13 838		
975 (e) (f)	250	4 241	74 533	61	720	13 825		
976 (e)		4 360	74 235	62	729	13 938		
977 (e) (g)	250			61	757	14 251		
978 (e)	253	4 584	73 676		792	14 401		
979 (e)	252	4 752	73 016	60	831	14 620		
980	256	4 908	72 283	59	831	14 020		
981 (g)	258	4 948	70 486	61	854	14 917		
982	259	4 901	69 142	70	904	15 326		
983	257	5 025	68 387	70	976	15 940		
984	257	5 145	67 787	71	1 030	16 464		
985	256	5 011	66 863	70	1 069	17 050		
986	255	4 985	66 050	69	1 115	17 459		
987	261	4 732	65 401	66	1 130	17 602		
988	257	4 811	65 404	65	1 153	17 795		

⁽a) Aggregate enrolment for whole year prior to 1960. From 1960 as at 1 August and excluding adult correspondence students.(b) Aggregate enrolment for whole year to 1919. From 1920 to 1961 enrolment as at 31 December and thereafter at 1 August.(c) Includes teachers, pupil-teachers and paid monitors; excludes training college staff, junior monitors, subsidised teachers, etc.

⁽d) Includes part-time teachers but excludes teachers at special schools from 1962.

⁽e) Full-time plus full-time equivalent of part-time teachers.
(f) From 1974 figures exclude kindergartens.
(g) From 1977 Government schools figures are shown using National Schools Collection definitions.

(Chapter 11)

Commonwealth Pensions: Tasmania

			Age and	invalid pe	nsions			ability ons (a)	Widows' pensions	
Year		aber of cioners		nditure on ensions	Weekly	0	Number		Number	
	Age	Invalid	Age	Invalid	rate (b)	Operative from	in force	Amount paid	in force	Amount paid
	no.	no.	\$'000	\$'000	\$	date	no.	\$'000	no.	\$'000
1909-10 1914-15 1919-20 1924-25 1929-30 1934-35 1939-40 1944-45 1949-50	3 245 4 528 4 806 5 856 7 678 8 495 10 614 9 512 11 402	1 349 1 947 2 036 2 456 2 975 2 552 2 699 3 158	159 223 364 503 753 737 1 055 1 271 2 359	68 145 180 248 263 256 368 670	1.00 1.00 1.50 1.75 2.00 1.75 2.10 2.70 4.25	1.7.1909 13.9.1923 8.10.1925 23.7.1931 26.12.1940 19.8.1943 21.10.1948 2.11.1950	9 551 10 770 12 321 12 523 11 729 12 081 19 168	524 590 695 724 808 1 103 2 036	1 564 1 384	207
1953-54	11 716 12 380 12 906 13 679 14 074 14 847 15 114 15 434	2 885 2 762 2 602 2 605 2 681 2 596 2 812 2 883 3 070 3 206	2 819 3 457 4 107 4 358 4 795 5 605 5 887 6 527 6 660 7 471	724 831 879 908 967 1 063 1 183 1 315 1 419 1 605	5.00 6.00 6.75 7.00 7.00 8.00 8.00 8.75 8.75 9.50	1.11.1951 2.10.1952 29.10.1953 27.10.1955 24.10.1957 8.10.1959 	21 407 22 863 23 966 24 935 25 731 26 483 26 751 27 238 27 621 28 048	2 595 3 121 3 429 3 641 3 934 4 035 4 054 4 424 4 458 4 832	1 366 1 358 1 380 1 371 1 409 1 419 1 476 1 581 1 663 1 773	323 376 441 461 475 537 607 677 741 833
1967-68	17 522 17 760 18 303 18 892	3 338 3 299 3 343 3 363 3 532 3 444 3 530 3 548 3 819 4 051	1 12 13 14 14	1 404 1 717 2 343 3 184 3 439 4 574 5 414 6 768	10.00 10.50 10.50 11.50 12.00 12.00 13.00 13.00 14.00 15.00	6.10.1960 5.10.1961 14.11.1963 1.10.1964 13.10.1966 10.10.1968 9.10.1969	28 305 28 398 28 214 27 913 27 109 26 446 25 629 25 015 24 485 23 807	5 166 4 988 5 668 6 158 6 214 6 919 6 645 6 790 7 622 7 835	1 849 1 912 1 977 2 109 2 248 2 327 2 432 2 588 2 678 2 958	940 1* 037 1 084 1 467 1 699 1 791 1 988 2 125 2 465 2 927
	24 894	4 316	2	1 835	{\frac{15.50}{16.00}}	8.10.1970 8.4.1971	23 254	8 230	3 138	3 327
	25 668	4 498	25	5 543	{17.25 18.25	7.10.1971 4.5.1972	22 512	9 094	3 205	3 842
	29 107	4 855		3 656	{20.00 21.50	Aug. 1972 Mar. 1973	21 905	9 857	3 600	5 136
1973-74		5 087		3 032	{23.00 26.00	Aug. 1973 Apr. 1974	21 987	11 176	3 932	6 582
1974-75		5 460		0 118	{\frac{31.00}{36.00}}	Aug. 1974 Apr. 1975	21 474	13 697	4 103	8 521
1975-76		6 091		7 976	{38.75 41.25	Aug. 1975 Apr. 1976	20 778	14 827	4 209	11 221
1976-77		6 612		1 788	{43.50 47.10	Aug. 1976 Apr. 1977	20 062	16 637	4 572	12 455
1977-78		6 205		7 203	{49.30 51.45	Nov. 1977 May 1978	18 844	18 676	5 001	14 660
1978-79	38 885 39 566	6 427 6 376		7 678 7 382	53.20 57.90	Nov. 1978 Nov. 1979	18 127 17 502	18 696 19 389	5 229 5 358	16 621 18 884
1981-82 1982-83 1983-84 1984-85 1985-86	39 970 39 162 38 627 38 106	6 487 6 615 6 767 7 266 7 614 7 835 8 285 8 607	163 176 194 209 219 234	2 519 3 130 5 095 4 587 9 200 9 505 4 207 9 530	61.05 74.15 85.90 91.90 94.30 102.10 112.15 120.05	May 1980 May 1982 Nov. 1982 Nov. 1984 May 1985 May 1986 June 1987 June 1988	16 944 16 681 16 805 16 783 16 743 16 774 15 337 15 121	21 918 22 965 28 887 33 968 38 882 31 855 31 844 35 220	5 230 5 153 5 144 5 009 4 979 4 897 4 723 4 556	21 003 23 160 24 187 25 885 27 699 28 992 29 762 31 983

⁽a) Previously 'war pensions', excludes pensions in respect of the Boer War which are paid by the United Kingdom.(b) Maximum single rate payable; subject to means test.(c) Separate figures for age and invalid pensions not available from 1960-61.

STATISTICAL SUMMARY

(Chapter 11)

Commonwealth Social Service Benefits Paid in Tasmania

	Family allowances	Maternity	allowance		ployment nefit	Sicknes	s benefit	Special be	enefit (b)
Year	total amount paid (a)	Claims admitted	Amount paid	Claims admitted	Amount paid	Claims admitted	Amount paid	Claims admitted	Amount paid
	\$'000	no.	\$'000	no.	\$'000	no.	\$'000	no.	\$'000
1912-13 1944-45 1949-50 1954-55 1959-60	1 057 2 483 (c) 4 065 4 719	3 611 5 582 7 408 7 940 8 985	n.a. n.a. n.a. 255 285	151 471 3 186	(d) 32 242	2 840 1 943 1 883	74 (d) 103 135	126 106 130	8 24 39
1964-65 1965-66 1966-67 1967-68 1968-69 1969-70	6 840	7 821 7 578 7 606 7 939 8 373 8 130	251 243 243 254 267 259	5 255 2 742 3 166 3 746 3 984 3 825	583 275 228 264 297 360	2 238 2 040 2 147 1 952 2 070 2 194	201 174 190 165 166 199	122 122 160 99 403 429	52 57 47 42 55 68
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 (e)	7 212 6 610 7 766 31 197 30 968 28 924	8 594 8 211 7 615 7 296 7 225 7 210 6 729 6 836 n.a.	274 260 241 230 229 215 215 213 91	4 388 8 974 12 536 11 642 22 088 30 930 23 981 27 337 26 294 26 316	366 966 2 095 3 125 7 746 15 256 17 963 23 398 28 609 29 665	2 687 2 964 3 295 3 975 4 144 5 018 4 662 4 284 3 881 3 554	327 497 792 1 247 1 692 2 409 2 380 2 385 2 024 2 299	388 418 459 574 800 1 760 1 827 1 792 2 071 2 051	71 79 128 224 443 811 979 804 1 299 1 487
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88	39 146 42 820 42 799 43 873			28 234 32 147 31 686 27 308 25 719 24 362 24 276 22 814	34 658 49 233 78 302 90 126 96 926 99 558 109 459 (f) 118 192	3 626 3 707 3 750 3 555 3 411 3 332 2 552 2 316	2 901 3 595 4 618 5 221 5 459 6 411 7 497 8 396	3 463 3 999 3 652 3 858 3 565 3 173 2 822 4 207 (2 372 2 956 3 428 3 714 3 425 3 335 3 946 (g) 5 570

⁽a) Known as 'child endowment' up to 1975-76; replaced by increased 'family allowances' from 1 July 1976 in conjunction with abolition of tax rebates in respect of dependent children.

⁽b) Includes payments to migrants.(c) Endowment extended to first child from 20 June 1950.

⁽d) Rates payable were doubled from 22 September 1952.
(e) Maternity allowance ceased 1 November 1978.
(f) Includes Job Search Allowance from 1 January 1988.
(g) Excludes Job Search Allowance (Special).

(Chapter 13)

Land Settlement: Land Utilisation, Tasmania ('000 ha)

		Land se	ttlement (b)			Land ut	ilisation on 1	ural estal	blishments
Year (a)		Land	Crown	land		Area	under		
Tear (a)	Alienated	In process of alienation	Leased or licensed (c)	Other	Year (d)	Crops (e)	Sown grasses (e)	Balance of area	Total area of rural estab.
1860		242 540 }		(0)	1860-61	62			
1870			(f)	(f)	1870-71 1880-81	64 57	(f)	(f)	(f)
1890	1	900	293	4 640	1890-91	64	81		
1900	1	957	513	4 364	1900-01	91	124	1 782	1 996
1910	1 996	447	591	3 799	1910-11	116	200	1 862	2 178
1920	2 121 2 315	390 219	920 1 122	3 402 3 177	1920-21 1930-31	120 108	267 305	2 216 2 241	2 603 2 654
1940	2 392	171	1 098	3 172	1940-41	103	313	2 282	2 698
1941	2 400	169	1 129	3 135	1941-42	114	318	2 316	2 748
1942	2 411	163	1 113	3 146	1942-43	121	n.a.	n.a.	2 641
1943		162	1 140	3 113	1943-44	136	164	2 287	2 587
1944		168 165	1 134 1 123	3 104 3 107	1944-45 1945-46	139	165 234	2 331 2 256	2 635
1946		161	1 110	3 115	1945-46	132 123	230	2 230	2 622 2 590
1947	2 460	157	1 100	3 116	1947-48	112	223	2 167	2 502
1948	2 473	153	1 087	3 121	1948-49	112	268	2 098	2 478
		148	1 134	3 065	1949-50	118	308	2 169	2 594
1951	2 496	145	1 080	3.112	1950-51	122	322	2 176	2 621
1952		142 139	1 108	3 069	1951-52	124	237	2 155	2 516
1954	2 534	139	1 111 1 055	3 058 3 107	1952-53 1953-54	130 142	326 336	2 198 2 156	2 654 2 635
1955	2 516	134	1 018	3 136	1954-55	132	363	2 177	2 672
1956	2 554	126	1 010	3 143	1955-56	137	400	2 145	2 682
1957	2 561 2 568	127 84	655 623	3 490 3 558	1956-57 1957-58	122 122	424 458	2 088 2 070	2 634 2 649
1959		81	615	3 562	1958-59	144	461	2 070	2 660
1960	2 584	77	618	3 554	1959-60	135	491	2 009	2 635
1961	2 591	86	626	3 531	1960-61	153	487	1 995	2 635
1962	2 597	80	606	3 551	1961-62	155	508	1 988	2 651
1963		80	586	3 565	1962-63	165	515	1 919	2 599
1964		89 83	628 595	3 446 3 476	1963-64 1964-65	158	552 576	1 871 1 855	2 581 2 598
1966		84	540	3 531	1964-65 1965-66	167 158	622	1 833	2 598
1967	2 692	100	535	3 506	1966-67	181	628	1 825	2 633
1968		93	478	3 571	1967-68	170	680	1 813	2 663
1969		96 100	465 442	3 579 3 594	1968-69 1969-70	193 169	618 737	1 776 1 732	2 587 2 637
1971	2 702 2 697	99 100	381 274	3 651	1970-71 1971-72	172 147	747 772	1 712 1 688	2 631 2 607
1973	2 729	133	248	3 760 3 723	1971-72 1972-73 (g) .	80	856	1 656	2 592
1974	2 731	135	236	3 728	1973-74	74	920	1 567	2 561
1975	2 755	159	223	3 693	1974-75	67	921	1 504	2 492
1976		154 146	229 163	3 696 3 778	1975-76 (h) . 1976-77 (h) .	60 65	935 904	1 464 1 340	2 459 2 308
1978		120	165	4 028	1976-77 (h) . 1977-78	70	904	1 340	2 308
1979	2 494	96	148	4 092	1978-79	80	904	1 247	2 232
1980	2 487	90	n.a.	n.a.	1979-80	78	895	1 256	2 229
1981	2 486	90	n.a.	n.a.	1980-81	84	903	1 234	2 220
1982			4 2		1981-82	90	910	1 168	2 168
1983	n.a.	n.a.	n.a.	n.a.	1982-83	98	903	1 167	2 168
1984	n.a. n.a.	n.a. n.a.	n.a. n.a.	n.a. n.a.	1983-84 1984-85	101	905 918	1 155 1 103	2 162 2 120
1986	n.a.	n.a.	n.a.	n.a.	1985-86	88	918	1 082	2 120
1987	n.a.	n.a.	n.a.	n.a.	1986-87 (i) .	78	832	963	1 873
1988	n.a.	n.a.	n.a.	n.a.	1987-88	85	832	954	1 871
1989	n.a.	n.a.	n.a.	n.a.	1988-89	82	853	949	1 884

⁽a) At 31 December until 1948: at 31 March for 1950 and subsequent years.(b) Area of State, 68 300 square kilometres.(c) Excludes areas under pulpwood concessions and exclusive forest permits.(d) Year ended 31 March.

⁽a) Tear ended 31 March.

(e) Area of sown grasses cut for hay, seed and green fodder is included under 'crops'.

(f) Not available on a comparable basis.

(g) From 1972-73 area of sown grasses cut for hay, seed and green fodder are included under 'sown grasses'.

(h) Not strictly comparable with earlier years due to changes in definition of a 'rural establishment'.

(i) The scope of the census for 1986-87 differs from previous years.

(Chapter 13)

Area and Production of Principal Crops, Tasmania

	Ва	rley for gr	rain	0	ats for gra	uin	W	heat for gr	rain		Blue pea	S
Year	Area	Total produc- tion	Yield per hectare	Area	Total produc- tion	Yield per hectare	Area	Total produc- tion	Yield per hectare	Area	Total produc- tion	Yield per hectare
	ha	tonnes	tonnes	ha	tonnes	tonnes	ha	tonnes	tonnes	ha	tonnes	tonnes
1860-61 1870-71 1880-81 1890-91 1900-01 1910-11	2 524 3 082 3 358 1 771 1 822 2 119	2 877 3 676 3 844 2 269 2 657 3 234	1.14 1.19 1.14 1.28 1.46 1.53	12 263 12 523 8 034 8 393 18 240 25 854	16 844 12 568 7 990 9 444 25 580 37 515	1.37 1.00 0.99 1.13 1.40 1.45	26 891 23 222 20 243 13 133 20 973 21 142	38 267 24 240 20 271 17 378 30 011 30 290	$\left.\begin{array}{c} 1.42 \\ 1.04 \\ 1.00 \\ 1.32 \\ 1.43 \\ 1.43 \end{array}\right\}$	n.a.	n.a.	n.a.
1920-21 1921-22 1922-23 1923-24 1924-25 1925-26 1926-27 1927-28 1928-29 1929-30	2 489 2 930 2 309 1 712 1 218 2 114 2 293 2 064 1 867 2 806	3 667 3 794 3 455 2 151 1 153 2 059 3 405 3 214 2 252 3 795	1.47 1.29 1.50 1.26 0.95 0.97 1.48 1.56 1.21	20 426 22 113 23 801 20 825 18 686 14 869 19 571 17 381 15 217 15 807	27 530 28 066 30 450 24 723 19 381 15 191 24 673 25 452 18 389 21 365	1.35 1.27 1.28 1.19 1.04 1.02 1.26 1.46 1.21	11 446 11 325 10 216 5 869 5 242 7 726 9 386 8 531 9 134 6 801	15 294 15 599 15 394 8 260 6 254 10 692 14 513 20 896 12 306 10 158	1.34 1.38 1.51 1.41 1.19 1.38 1.55 2.45 1.35 1.49	3 476 4 182 3 532 2 927 3 112 3 324 3 043 3 672 3 960 4 097	4 945 5 212 4 377 4 346 3 362 2 891 4 055 5 631 4 624 6 031	1.42 1.25 1.24 1.48 1.08 0.87 1.33 1.53 1.17
1930-31 1931-32 1932-33 1933-34 1934-35 1935-36 1936-37 1937-38 1938-39 1939-40	2 506 3 390 3 478 3 173 2 339 2 115 2 811 3 762 3 518 3 125	3 832 2 721 4 808 3 915 3 989 2 107 5 470 6 958 4 731 4 446	1.53 0.80 1.38 1.23 1.71 1.00 1.95 1.85 1.34 1.42	14 536 7 451 12 404 12 626 14 816 9 683 8 884 13 128 10 049 9 352	19 141 6 488 15 059 15 532 19 168 10 123 13 659 18 767 11 727 9 626	1.32 0.87 1.21 1.23 1.29 1.05 1.54 1.43 1.17 1.03	7 732 4 744 8 492 9 752 6 740 4 210 8 627 8 531 3 986 3 033	10 581 4 944 11 704 15 153 8 311 5 027 15 430 14 216 5 548 2 911	1.37 1.04 1.38 1.55 1.23 1.19 1.79 1.67 1.39 0.96	2 859 2 439 3 687 5 663 5 283 4 116 2 613 1 882 1 787 2 113	4 060 2 079 5 688 6 592 4 722 3 430 3 912 2 707 2 050 3 407	1.42 0.85 1.54 1.16 0.89 0.83 1.50 1.44 1.15 1.61
1940-41 1941-42 1942-43 1943-44 1944-45 1945-46 1946-47 1947-78 1948-49 1949-50	2 286 2 153 1 104 1 391 2 189 2 730 2 532 3 298 2 966 1 759	3 349 2 672 1 428 2 150 3 616 2 803 3 538 4 961 4 728 2 975	1.47 1.24 1.29 1.55 1.65 1.03 1.40 1.50 1.59	7 099 11 043 5 325 3 943 5 977 5 656 9 181 6 910 4 734 9 232	7 569 15 248 5 310 5 438 7 630 5 120 10 825 6 548 4 756 10 499	1.07 1.38 1.00 1.38 1.28 0.91 1.18 0.95 1.00 1.14	3 253 2 596 1 671 1 958 1 551 2 016 3 051 3 147 2 779 2 215	3 794 3 924 1 982 3 301 2 504 1 801 3 763 3 195 4 211 3 440	1.17 1.51 1.19 1.69 1.61 0.89 1.23 1.02 1.52 1.55	3 830 7 485 10 989 15 176 8 828 9 420 4 773 2 783 2 625 3 101	5 237 8 452 10 961 15 785 13 014 7 922 6 364 3 938 3 999 3 955	1.37 1.13 1.00 1.04 1.47 0.84 1.33 1.42 1.52 1.28
1950-51 1951-52 1952-53 1953-54 1954-55 1955-56 1956-57 1957-58 1958-59 1959-60	1 320 1 716 3 253 3 819 2 936 2 558 2 865 3 393 3 777 5 016	2 061 3 400 4 930 6 738 4 541 4 339 5 341 6 140 6 696 9 511	1.56 1.98 1.52 1.76 1.55 1.70 1.86 1.81 1.77 1.90	9 486 10 740 8 114 8 141 9 154 11 604 6 701 8 381 8 984 8 910	7 802 10 803 5 197 8 381 8 212 9 964 4 594 8 762 8 921 9 305	0.82 1.01 0.64 1.03 0.90 0.86 0.69 1.05 0.99 1.04	2 152 1 458 2 707 3 921 2 955 2 519 1 578 2 381 2 605 3 344	2 564 2 541 4 227 7 116 4 286 3 478 2 393 4 148 4 423 4 912	1.19 1.74 1.56 1.81 1.45 1.38 1.52 1.74 1.70	3 395 3 078 1 411 2 159 2 292 2 334 3 349 2 923 1 002 1 285	4 630 5 338 1 903 3 096 3 093 3 690 5 088 3 854 1 302 2 148	1.36 1.73 1.35 1.43 1.35 1.58 1.52 1.32 1.30 1.67
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68 1968-69 1969-70	6 204 7 579 7 993 5 581 6 264 8 056 8 521 9 733 10 608 12 016	7 821 13 794 14 340 9 414 12 031 15 541 17 540 20 096 20 092 24 896	1.26 1.82 1.79 1.69 1.92 1.93 2.06 2.06 1.89 2.07	9 449 10 908 12 587 12 280 11 366 11 449 14 532 14 314 12 721 8 971	7 114 10 676 15 046 15 339 9 463 12 304 17 236 18 430 10 598 8 272	0.75 0.98 1.20 1.25 0.83 1.07 1.19 1.29 0.83 0.92	2 797 6 300 6 208 7 107 6 801 5 709 5 159 4 864 7 039 5 962	4 003 9 327 11 322 13 047 9 842 9 955 10 412 8 548 11 088 9 531	1.43 1.48 1.82 1.84 1.45 1.74 2.02 1.76 1.58 1.60	1 332 1 566 2 299 2 087 1 603 2 223 1 769 1 725 1 358 1 577	1 198 2 814 3 409 2 693 2 752 2 779 3 039 2 540 2 160 3 224	0.90 1.80 1.48 1.29 1.72 1.25 1.72 1.47 1.59 2.04
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80	12 884 12 576 12 802 11 121 12 020 11 475 11 644 11 444 11 938 10 558	29 825 27 753 18 711 23 790 27 266 18 389 24 571 19 403 26 971 17 304	2.31 2.21 1.46 2.13 2.27 1.60 2.11 1.70 2.26 1.60	9 444 6 432 6 477 9 173 6 069 3 924 6 387 4 616 8 564 7 489	8 839 7 065 7 144 8 247 5 496 3 497 8 801 4 279 11 826 7 937	0.94 1.10 1.10 0.89 0.90 0.89 1.38 0.93 1.38 1.10	4 479 4 570 4 251 2 521 1 535 1 644 1 980 1 257 1 366 1 972	7 638 8 299 7 701 3 510 2 282 1 728 3 929 1 545 2 867 3 727	1.71 1.82 1.81 1.39 1.48 1.05 1.98 1.23 2.10 1.90	2 023 1 025 504 587 969 209 81 326 466 548	4 608 1 650 387 1 027 2 171 261 139 417 928 684	2.28 1.61 0.77 1.74 2.24 1.25 1.72 1.28 1.99 1.20
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1988-89	10 056 12 108 12 358 15 059 12 352 12 209 8 487 8 024 7 820	18 307 23 267 21 925 34 119 29 700 27 722 20 681 21 549 22 022	1.82 1.92 1.80 2.30 2.40 2.27 2.44 2.69 2.82	8 781 9 923 7 965 13 978 9 851 10 264 7 765 9 560 10 233	11 146 13 381 8 912 24 729 15 855 16 530 11 215 15 552 17 925	1.26 1.35 1.10 1.80 1.60 1.61 1.44 1.63 1.75	1 614 1 293 928 1 142 2 456 1 837 1 729 1 179 771	2 545 2 342 1 489 2 841 4 389 4 014 4 739 3 815 2 199	1.57 1.81 1.60 2.50 1.80 2.18 2.74 3.24 2.85	413 459 330 388 799 1 042 983 297 264	587 740 520 981 2 079 2 133 1 222 593 539	1.42 1.61 1.60 2.50 2.60 2.05 1.24 2.00 2.04

continued next page

(Chapter 13)

Area and Production of Principal Crops, Tasmania - continued

		Potatoes			Hops			Pasture ha	ry		Apples	
Year	Area	Total produc- tion	Yield per hectare	Bearing area	Total produc- tion	Yield per hectare	Area	Total produc- tion	Yield per hectare	Bearing area (a)	produc-	
	ha	tonnes	tonnes	ha	tonnes	tonnes	ha	tonnes	tonnes	ha	tonnes	tonnes
1860-61	3 084 3 975 4 217 8 147 9 335 10 615	34 128 36 606 33 070 74 332 95 368 71 215	11.07 9.21 7.84 9.12 10.22 6.71	n.a. 260 230 151 253 420	n.a. 339 292 196 316 805	n.a. 1.30 1.27 1.30 1.25 1.92	12 880 13 602 12 794 18 365 24 868 29 539	63 318 41 417 36 459 52 856 95 710 117 039	4.92 3.04 2.85 2.88 3.85 3.96	n.a.	2 267 2 819 2 953 7 030 10 497 25 681	n.a.
1920-21 1921-22 1922-23 1923-24 1924-25 1925-26 1926-27 1927-28 1928-29 1929-30	12 950 14 890 13 924 14 989 14 638 13 431 13 753 17 951 15 094 13 647	90 102 109 351 102 825 101 540 84 715 68 422 115 931 141 065 76 429 92 600	6.96 7.34 7.38 6.77 5.88 5.09 8.43 7.86 5.06 6.79	516 572 599 604 605 483 528 514 480 472	845 995 986 1 040 1 009 791 974 1 119 875 872	1.64 1.74 1.65 1.72 1.67 1.64 1.84 2.18 1.82 1.85	45 980 37 006 40 504 39 329 35 590 37 472 39 776 34 710 32 452 32 437	179 636 139 190 169 967 146 614 123 054 116 764 153 627 126 929 121 344 121 723	3.91 3.76 4.20 3.73 3.46 3.12 3.86 3.66 3.74 3.75	10 364 10 829 10 372 10 393 10 383 10 311 10 120 10 237 10 219 9 562	44 941 56 982 59 592 36 006 42 103 78 719 55 248 89 025 47 628 75 221	5.26 5.75 3.46 4.05 7.63 5.46 8.70
1930-31	15 066 14 727 14 475 14 778 14 714 14 050 14 960 13 139 10 803 12 323	96 818 96 920 99 809 82 578 71 142 87 183 140 781 101 574 90 764 116 245	6.43 6.58 6.90 5.59 4.83 6.21 9.41 7.73 8.40 9.43	393 345 321 328 334 352 365 357 373 368	760 725 628 730 831 981 950 958 1 041 808	1.93 2.10 1.96 2.22 2.49 2.79 2.60 2.68 2.79 2.20	33 697 34 118 37 501 31 414 38 857 30 247 36 177 29 561 32 358 38 957	131 027 94 081 143 403 111 153 152 492 98 443 139 068 114 809 111 291 143 674	3.89 2.76 4.20 3.54 3.92 2.53 3.84 3.88 3.44 3.69	9 672 9 377 9 402 9 436 9 485 9 296 8 745 8 881 8 684 8 850	72 394 111 334 84 015 94 360 74 947 75 251 87 844 91 292 109 048 98 075	11.87 8.94 10.00 7.90 8.09 10.05 10.28 12.56
1940-41 1941-42 1942-43 1943-44 1944-45 1945-46 1946-47 1947-48 1948-49 1949-50	15 121 12 400 16 359 24 484 32 817 22 762 17 493 16 342 13 079 13 804	115 871 111 613 138 112 221 296 350 773 239 930 173 359 145 037 133 915 123 958	7.66 9.00 8.44 9.04 4.55 10.54 9.91 8.88 10.24 8.98	369 427 448 435 441 445 490 506 508 518	1 351 1 280 1 183 1 267 1 102 904 1 005 1 113 694 977	3.66 3.00 2.64 2.91 2.50 2.03 2.05 2.20 1.37 1.89	30 789 37 488 33 209 40 178 38 855 40 371 42 093 34 137 36 656 36 962	96 708 149 997 111 721 156 303 148 253 118 958 172 103 139 857 153 118 158 151	3.14 4.00 3.36 3.89 3.82 2.95 4.09 4.10 4.18 4.28	8 808 8 970 8 889 8 896 8 723 8 702 8 544 8 239 7 826 7 661	113 277 121 107 109 410 152 846 125 165 162 353 80 548 150 389 48 828 91 330	13.50 12.31 17.18 14.35 18.66 9.43 18.25 6.24
1950-51 1951-52 1952-53 1952-53 1953-54 1954-55 1955-56 1956-57 1957-58 1958-59 1959-60	12 780 12 753 14 304 13 971 10 606 8 434 7 740 8 780 6 550 6 283	125 990 153 424 116 338 146 616 102 621 79 181 91 140 103 129 87 279 99 573	9.86 12.03 8.13 10.49 9.68 9.39 11.78 11.75 13.32 15.85	518 531 524 518 539 531 569 571 579 581	1 125 778 1 367 973 1 353 1 437 974 1 302 1 535 1 270	2.17 1.47 2.61 1.88 2.51 2.71 1.71 2.28 2.65 2.19	39 007 39 563 44 534 49 877 39 051 55 505 49 837 44 581 62 250 51 211	163 301 175 051 195 289 245 459 160 495 265 619 242 209 208 062 306 923 224 778	4.19 4.42 4.39 4.92 4.11 4.79 4.86 4.67 4.93 4.39	7 378 7 273 7 200 7 184 6 890 6 950 6 754 6 804 6 651 6 509	92 359 93 921 71 575 101 047 95 426 112 896 64 792 126 403 94 931 104 226	12.91 9.94 14.07 13.85 16.24 9.59 18.58 14.27
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68 1968-69 1969-70	4 401 4 504 5 600 4 373 3 801 4 853 4 159 4 435 4 638 3 790	39 677 72 709 83 870 66 470 57 978 77 626 74 476 80 327 73 278 67 995	9.02 16.14 14.98 15.20 15.25 16.00 17.91 18.11 15.80 17.94	569 571 588 592 597 603 594 608 616 565	1 279 1 287 1 298 717 947 1 392 948 1 363 1 582 1 268	2.25 2.25 2.21 1.21 1.59 2.31 1.60 2.24 2.57 2.24	69 206 63 632 66 952 60 557 72 947 59 824 82 225 72 373 85 212 69 526	331 206 289 971 318 028 253 175 370 204 261 366 443 919 314 060 502 159 367 340	4.79 4.56 4.75 4.18 5.07 4.37 5.40 4.34 5.89 5.28	6 404 6 239 6 268 6 291 6 286 6 254 6 165 6 048 5 863 5 804	106 571 149 436 119 297 162 791 118 250 159 343 120 040 151 322 135 986 140 977	19.03 25.88 18.81 25.48 19.47 25.02 23.19
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80	3 640 3 593 3 330 3 127 4 143 3 354 3 705 3 592 3 646 4 115	72 591 70 370 78 286 62 866 95 610 95 614 112 269 107 240 124 385 136 197	19.94 19.59 23.51 20.10 23.07 28.51 30.30 29.86 34.12 33.10	452 539 616 703 662 513 587 567 578 620	1 077 1 159 1 450 1 949 1 439 1 129 1 330 1 201 1 457 1 183	2.38 2.15 2.35 2.77 2.17 2.20 2.27 2.12 2.52 1.90	85 565 81 176 53 937 88 884 78 557 70 262 69 730 46 480 65 835 57 689	447 766 449 936 215 580 448 355 375 969 322 235 334 961 166 495 295 464 243 527	5.23 5.54 4.00 5.04 4.79 4.59 4.80 3.58 4.49 4.20	5 715 5 218 4 980 4 148 3 335 2 947 2 741 2 601 2 693 2 661	140 463 111 887 133 449 113 012 95 247 72 529 71 781 63 444 85 230 74 434	21.44 26.80 27.24 28.56 24.61 26.19 24.39 31.65
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1988-89	4 335 4 438 4 749 5 203 5 209 4 832 5 744 6 380 6 001	155 965 160 797 173 147 213 090 203 472 193 485 223 245 248 303 256 849	35.97 36.20 36.50 41.00 39.10 40.04 38.87 38.92 42.80	672 811 889 896 869 835 651 670 709	1 558 1 608 1 589 1 902 1 341 1 178 1 165 1 563 1 752	2.32 1.98 1.80 2.10 1.54 1.41 1.79 2.33 2.47	61 555 60 939 48 588 63 208 51 667 56 664 45 116 41 162 56 752	241 817 233 471 157 117 270 436 212 544 252 944 195 081 163 434 272 893	3.93 3.83 3.20 4.30 4.10 4.46 4.32 3.97 4.81	2 758 2 668 2 545 2 553 2 588 2 661 2 612 2 579 2 654	76 033 67 376 69 421 56 800 61 624 56 983 48 088 52 857 52 637	25.25 27.30 22.20 23.81 21.41 18.41 20.50

(Chapter 13) Livestock Numbers: Production of Wool: Lambing, Tasmania

		Lives	stock (a)		Proc	duction of woo	ol (a)	Lan	nbing
Year	Horses	Cattle	Sheep	Pigs	Number of sheep and lambs shorn	Average yield per sheep and lamb shorn (including crutchings)	Production of wool (including dead, fell- mongered & exported on skins)	Ewes mated	Lambs marked
	'000	'000	'000	'000	'000	kg	'000 kg	'000	'000
1860	21 23 25 31 32 41	83 101 127 162 166 202	1 701 1 350 1 794 1 619 1 684 1 788	31 49 48 82 68 64	n.a.	n.a.	2 058 1 881 4 094 4 075 3 064 6 050	n.a.	n.a.
1920-21	39 37 34	208 226 215	1 571 1 614 2 091	38 47 53	1 551 1 630 1 983	2.94 3.16 3.14	5 218 5 662 6 804	416 557 679	299 423 534
1930-31 1931-32 1932-33 1933-34 1934-35 1935-36 1936-37 1937-38 1938-39 1939-40	33 31 30 30 31 31 31 32 30 30	230 232 251 262 262 270 262 255 262 252	2 120 2 012 2 041 2 035 2 038 2 140 2 234 2 521 2 626 2 677	55 41 41 38 40 45 40 43 45 45	1 961 1 913 1 940 1 991 1 976 2 010 1 106 2 460 2 432 2 509	3.11 3.14 3.16 2.91 2.90 3.37 2.72 2.60 3.03 3.08	6 713 6 668 6 895 6 441 6 366 7 394 6 381 7 076 7 946 8 316	695 647 679 686 672 735 791 873 940 940	547 478 526 517 497 586 594 722 737 756
1940-41 1941-42 1942-43 1943-44 1944-45 1945-46 1946-47 1947-48 1948-49 1949-50	29 29 27 26 26 25 24 23 22 21	259 253 245 230 225 216 220 244 266 275	2 682 2 398 2 227 2 188 2 156 1 926 1 933 2 087 2 160 2 170	47 45 49 46 47 47 47 45 37 36	2 517 2 416 2 293 2 260 2 235 2 015 2 005 2 085 2 198 2 255	2.78 3.04 2.98 2.93 2.79 2.73 3.04 3.18 3.09 2.97	7 746 7 704 7 827 8 130 7 404 7 411 7 549 6 952 7 641 7 692	988 844 785 811 756 701 577 779 803 800	764 669 655 669 629 509 440 656 662 652
1950-51 1951-52 1952-53 1953-54 1954-55 1955-56 1956-57 1957-58 1958-59 1958-60	20 19 18 17 16 15 14 13 12	272 226 275 295 319 332 354 371 374 375	2 182 2 338 2 422 2 465 2 595 2 673 2 943 3 298 3 536 3 494	45 47 39 46 58 49 52 63 69 67	2 245 2 379 2 502 2 553 2 715 2 733 3 082 3 388 3 673 3 834	2.99 3.42 3.19 3.16 3.53 3.45 3.78 3.50 3.57 3.44	7 824 9 305 8 984 9 124 10 794 10 624 13 009 13 234 14 803 15 241	774 839 894 916 968 979 1 150 1 266 1 381 1 461	637 726 768 788 884 877 1 056 1 199 1 269 1 354
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68 1968-69 1969-70	9 9 8 8 7 n.a. 7 n.a.	394 425 444 450 451 492 522 564 586 646	3 439 3 532 3 570 3 600 3 792 4 127 4 321 4 428 4 395 4 560	71 76 70 83 92 96 86 87 95	3 678 3 830 3 783 3 868 3 978 4 318 4 517 4 572 4 632 4 792	3.44 3.56 3.64 3.47 4.06 3.88 3.88 3.34 4.09 4.05	14 456 15 635 15 677 15 425 17 994 18 986 19 574 17 376 21 299 21 861	1 378 1 440 1 419 1 458 1 478 1 651 1 688 1 779 1 736 1 831	1 267 1 368 1 310 1 353 1 374 1 594 1 574 1 522 1 561 1 715
1970-71 1971-72 1972-73 1972-73 1973-74 1974-75 1976-76 1976-77 1977-78 1978-79 1979-80	n.a.	733 829 900 884 921 909 819 733 657 649	4 517 4 237 3 824 3 964 4 136 4 249 4 015 3 969 4 157 4 245	113 104 85 68 64 70 65 64 61 63	4 806 4 607 4 251 4 101 4 153 4 352 4 229 4 242 4 319 4 550	3.99 4.03 3.76 3.90 4.12 4.13 3.82 4.00 4.04 4.04	21 671 21 063 18 154 17 549 18 888 19 951 18 109 18 294 19 079 20 003	1 889 1 805 1 604 1 535 1 644 1 677 1 640 1 672 1 712 1 861	1 705 1 617 1 369 1 361 1 466 1 515 1 378 1 529 1 582 1 706
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 (b) 1987-88 1988-89	7 6 6 6 4 5 5 5	659 628 559 542 554 570 535 542 560	4 381 4 513 4 451 4 583 4 780 5 083 4 954 4 746 4 933	54 47 51 48 47 45 46 48 45	4 627 4 841 4 901 4 845 5 000 5 270 5 234 5 260 5 139	3.91 3.69 3.65 3.74 3.74 3.88 3.91 3.67 3.65	20 049 21 783 21 680 21 887 21 935 24 994 r 26 341 23 519 22 315	1 892 2 010 2 035 2 014 2 100 2 018 r 1 982 1 871 n.y.a.	1 674 1 843 1 853 1 794 1 908 1 859 r 1 710 1 569 n.y.a.

(a) Up to 1925-26 numbers recorded were at varying dates in the years shown; from 1926 to 1940 at 31 December; from 1941-42 at 31 March. (b) The scope of the census for 1986-87 differs from previous years.

(Chapter 13) Livestock Slaughtered (a) for Human Consumption, Tasmania ('000)

		Cattle and co	alves		Sh	neep and lar	nbs	
Year	Bulls, bul- locks & steers	Cows and heifers	Calves	Total	Sheep	Lambs	Total	Pigs
1924-25	21.1	12.5	2.5	36.2	213.0	63.1	276.1	55.2
	20 4	13.0	1.8	35.3	228.1	113.4	341.5	64.3
	32.7	12.1	3.6	48.4	248.4	212.6	461.0	73.4
	27.3	14.4	4.7	46.5	323.8	185.6	509.4	58.1
	29.3	23.7	4.6	57.6	245.7	262.4	508.1	50.9
1950-51	32.2	28.9	8.6	69.8	234.1	250.5	484.6	57.8
1951-52	33.4	29.5	8.7	71.6	226.4	256.1	482.5	65.9
1952-53	32.9	25.3	12.3	70.5	269.8	306.7	576.5	65.5
1953-54	22.6	25.2	14.0	61.8	286.7	307.3	594.0	59.5
1953-54	26.7	32.9	15.3	74.9	287.1	356.1	643.2	79.3
1954-55	32.3	36.4	19.8	88.4	256.2	388.8	645.0	87.6
1955-56	38.5	38.3	25.2	102.0	280.1	403.9	683.9	82.0
1956-57	42.0	45.3	30.5	117.9	283.2	451.2	734.5	90.6
1957-58	42.5	49.0	35.9	127.5	363.0	546.2	909.2	107.5
1958-59	47.1	56.9	40.5	144.6	505.0	661.5	1 166.4	114.5
1960-61	35.5	43.3	36.2	115.0	474.7	601.0	1 075.7	111.5
1961-62	42.6	48.6	44.2	135.5	510.6	649.3	1 159.9	120.5
1962-63	49.5	62.3	46.1	158.0	466.0	628.8	1 094.8	115.4
1963-64	51.5	70.9	53.8	176.2	544.9	582.1	1 127.1	123.5
1963-65	52.9	70.5	50.6	174.1	424.8	562.1	986.9	134.5
1965-66	47.1	60.7	46.5	154.2	566.7	597.2	1 163.9	146.3
1966-67	52.5	67.2	50.8	170.5	552.2	606.9	1 159.1	148.9
1966-67	57.9	66.0	47.9	171.8	600.1	524.9	1 125.0	143.0
1967-68	68.4	64.2	45.2	177.8	567.5	673.4	1 240.9	139.0
1968-69	78.6	66.5	32.8	177.9	608.3	688.7	1 297.0	160.1
1970-71	78.9	61.1	22.0	162.1	713.2	680.7	1 393.9	170.6
1971-72	96.3	69.2	19.3	184.8	813.0	662.2	1 475.2	165.0
1972-73	124.7	110.2	25.9	260.8	636.5	641.7	1 278.2	152.0
1973-74	126.3	103.6	29.6	259.4	335.6	489.7	825.3	115.6
1973-74	149.3	75.4	37.5	262.1	402.8	577.1	979.9	101.4
1974-75	164.1	119.4	64.5	348.0	454.9	613.6	1 068.5	94.1
1975-76	144.9	139.9	72.9	357.7	469.1	523.5	992.6	99.6
1976-77	161.0	132.8	68.7	362.5	386.8	650.1	1 036.8	92.5
1977-78	123.6	103.2	54.5	281.2	345.4	502.9	848.3	90.5
1978-79	95.6	83.0	39.5	218.1	316.9	613.2	930.1	88.7
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1987-88	95.9 106.6 109.4 80.4 83.4 85.5 103.9 104.0 97.2	86.1 91.5 106.5 73.2 63.7 57.7 68.9 75.7 63.9	42.2 53.8 59.6 46.4 38.2 32.2 32.2 35.6 40.5	224.1 251.9 275.5 200.0 185.3 175.4 204.9 215.2 201.6	403.3 452.0 563.3 418.9 427.3 466.6 509.7 630.0 412.4	646.9 690.7 764.4 756.9 683.9 665.7 670.6 656.0 595.0	1 050.2 1 142.7 1 327.7 1 175.9 1 111.3 1 132.3 1 180.3 1 286.1 1 007.5	88.6 77.2 77.3 80.2 83.1 84.4 89.6 97.5

⁽a) Including livestock slaughtered on farms.

(Chapter 13) Value of Agricultural Commodities Produced, Tasmania (\$ million)

	Crops (a)			Livestock slaughterings and other disposals		Livestock products		Total agriculture	
Year	Gross	Local	Gross	Local	Gross	Local	Total ag. Gross 110.2 112.2 148.4 164.7 137.6 137.7 173.9 184.8 255.4 264.4 274.6 300.2 340.4 356.4 356.4 382.2 390.2 436.9	Loca	
1970-71	40.1	29.2	28.1	25.9	41.9	40.2	110.2	95.3	
1971-72	33.7	24.0	31.5	29.0	47.0	45.1	112.2	98.1	
1972-73	40.0	28.3	43.6	40.4	64.8	61.7	148.4	130.3	
1973-74	46.6	37.0	58.0	54.0	60.0	57.3	164.7	148.2	
1974-75	49.4	39.7	31.7	29.1	56.5	53.1	137.6	121.9	
1975-76	43.0	35.2	34.1	31.0	60.7	57.0	137.7	123.3	
1976-77	55.7	48.7	46.1	42.2	72.1	68.2	173.9	159.1	
1977-78	54.0	47.8	54.8	47.9	76.1	72.2	184.8	167.9	
1978-79	76.9	68.8	91.7	80.2	86.7	82.7	255.4	231.6	
1979-80	70.4	61.7	100.3	87.4	93.7	89.0	264.4	238.0	
1980-81	80.3	71.1	94.1	82.4	100.2	95.1	274.6	248.6	
1981-82	92.3	81.4	90.2	78.8	117.7	112.7	300.2	272.9	
1982-83	106.3	93.8	100.7	87.9	131.5	126.3	340.4	309.4	
1983-84	134.0	121.3	95.6	83.2	126.9	121.0	356.4	325.6	
1984-85	131.7	116.0	115.3	106.6	135.1	130.2	382.2	352.0	
1985-86	147.8	129.6	95.1	88.6	147.3	140.5	390.2	358.7	
1986-87	145.0	128.9	111.5	104.5	180.4	170.5	436.9	403.9	
1987-88	188.2	168.0	120.0	112.6	239.1	230.0	547.2	510.7	
1988-89 p	232.3	217.4	122.3	114.2	248.4	236.3	603.0	568.0	

⁽a) Excludes crops and pasture harvested for green feed or silage.

(Chapter 13)

Production of Meat, Tasmania (Tonnes: Carcass Weight)

	1	Beef and vea	ıl	Mı	utton and lar	nb		
Year	Beef	Veal	Total	Mutton	Lamb	Total	Pigmeat (a)	Total
1924-25		3 233	8 233	4 154	888	5 042	2 561	15 836
1929-30		3 153	8 153	4 448	1 595	6 043	2 848	17 044
1939-40		165	10 791	4 845	2 989	7 834	3 560	22 185
1949-50		169	12 468	4 896	4 173	9 069	2 597	24 134
1959-60		906	23 516	10 267	10 846	21 113	5 438	50 067
1960-61	16 388	777	17 165	9 513	9 715	19 228	5 138	41 531
1961-62	19 076	910	19 989	10 228	10 326	20 554	5 515	46 058
1962-63	23 076	999	24 075	9 614	10 083	19 697	5 549	49 321
1963-64	24 988	1 337	26 325	11 101	9 300	20 401	6 022	52 748
1963-64	25 741	951	26 692	7 225	9 189	18 414	6 691	51 797
1965-66	22 429	951	23 380	11 697	9 739	21 436	7 136	51 952
1965-66	24 124	967	25 091	11 412	9 825	21 237	7 279	53 607
1967-68	24 509	977	25 486	11 666	8 497	20 163	7 001	52 650
1968-69	27 583	802	28 385	11 701	11 112	22 813	7 137	58 335
1969-70	30 909	599	31 509	12 767	11 282	24 049	8 007	63 564
1970-71	29 481	398	29 879	14 755	11 318	26 073	8 530	64 482
1971-72	34 422	374	34 796	16 314	10 875	27 189	8 266	70 251
1972-73	46 946	525	47 471	12 201	10 327	22 528	7 389	77 388
1973-74	45 669	613	46 282	6 672	8 096	14 768	5 477	66 527
1974-75	47 592	721	48 313	7 984	9 508	17 492	4 872	70 677
1975-76	57 924	1 242	59 166	8 997	9 849	18 846	4 516	82 529
1976-77	55 790	1 613	57 403	8 494	8 189	16 683	4 946	79 032
1977-78	59 779	1 556	61 335	7 035	9 849	16 884	4 785	83 004
1978-79	46 269	1 152	47 421	6 833	7 883	14 716	4 834	66 971
1979-80	36 561	835	37 396	5 656	9 017	14 673	4 862	56 931
1980-81	36 812	924	37 736	7 420	9 976	17 396	4 767	59 899
1981-82	40 561	1 266	41 827	8 492	10 647	19 139	4 262	65 228
1982-83	43 518	1 376	44 894	10 364	11 840	22 204	4 196	71 294
1983-84	31 374	960	32 334	8 177	11 745	19 922	4 315	56 572
1984-85	30 821	880	31 701	8 297	10 701	18 998	4 752	55 451
1985-86	30 843	914	31 757	9 382	10 298	42 055	4 665	78 477
1986-87	37 780	1 379	39 159	9 957	10 423	20 380	5 491	65 030
1987-88	39 479	1 791	41 270	11 645	10 213	21 858	5 974	69 102
1988-89	36 178	2 083	38 261	8 069	9 522	17 590	5 810	61 661

(Chapter 13) Weighted Average Prices Paid to Farmers Per Unit of Selected Farm Products, Tasmania (\$ per tonne)

	Cereal	for grain		Orcha	rd fruit	Small .	fruit	Vegeto	ables	
Year	Wheat	Barley	Hops	Apples	Pears	Currants	Rasp- berries	Potatoes	Peas	Wool, greasy
1929-30 1934-35 1939-40 1944-45 1949-50 1954-55 1959-60	18 12 12 18 50 50 51	15 13 17 23 32 74 59	198 309 331 397 772 1 213 1 389	17 28 23 20 64 101 99	23 28 25 20 73 114 100	40 40 70 90 130 180 220	40 40 70 70 130 180 200	13 17 18 25 30 79 39	n.a. n.a. n.a. n.a. 30 28	220 200 260 350 1 320 1 410 1 150
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68 1968-69 1969-70 1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78	51 59 54 53 49 51 53 54 42 53 48 52 104 104 97 82 86 109	63 64 61 63 61 58 63 66 57 52 51 47 92 99 111 121 122	1 367 1 433 1 433 1 433 1 499 1 565 1 653 1 698 1 698 1 698 1 698 1 698 1 698 1 698 1 698 1 97 1 961 1 1 649 1 957 2 202 2 553	102 104 112 107 113 100 124 110 107 110 103 103 121 121 149 173 165 202 195 223	126 87 122 111 129 68 119 102 124 136 134 117 174 117 181 171 195 261 248 284	260 260 240 260 220 200 240 290 310 330 350 390 470 500 550 700 720 780	180 220 220 220 220 220 220 240 310 330 350 350 410 530 500 580 740 870 950	89 52 25 64 116 37 54 48 29 46 42 37 57 87 57 87 59 77 83 83 102	31 26 60 115 103 96 108 117 111 99 115 106 131 147 156 158 158	1 060 1 080 1 210 1 480 1 080 1 230 1 120 960 1 050 880 740 1 900 2 290 1 920 1 370 2 100 2 090 2 340 2 700
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88	139 136 139 159 162 159 145 165	150 162 182 171 169 145 150 157	3 002 3 183 4 355 4 980 5 157 n.a. n.a.	220 281 369 401 439 596 579 666	352 331 446 553 536 572 r 663 652	800 666 549 654 574 700 721 737	1 080 1 173 915 896 1 069 1 079 1 070 1 161	110 116 130 134 135 143 r 151 167	177 223 243 245 263 208 215 251	2 770 2 820 2 717 2 958 r 3 343 r 3 420 r 4 128 6 904

(Chapter 14) Assayed Contents of Metallic Minerals Produced and Coal Production, Tasmania

Year	Cadmium	Copper	Gold	Iron	Lead	Manganese
	tonnes	tonnes	kg	tonnes	tonnes	tonnes
953	73 50 57	9 045 8 529 11 867	528 525 747		10 199 11 448 13 249	175
961 962 963 964 965 965 966 967 968 969 970	63 73 75 78 71 76 74 75 77 70	12 947 14 748 17 075 15 118 15 411 17 278 17 540 16 867 18 983 23 934	836 999 1 133 1 069 1 023 1 135 1 167 1 135 1 252 1 335	502 462 1 388 328 1 346 065	12 450 14 991 15 222 15 594 14 466 15 828 15 375 15 152 15 145 13 934	188 268 262 247 237 258 247 250 258 209
971 972 973 974 975 975 977 977 977 977 9980	84 138 178 126 167 157 199 188 188	25 525 28 298 25 821 29 086 26 460 25 342 22 002 23 908 22 591 23 013	1 793 2 021 1 511 1 586 1 668 1 495 1 891 1 912 1 747 1 311	1 497 486 1 623 450 1 678 146 1 514 373 1 431 041 1 542 306 1 413 476 1 446 024 1 528 225 1 472 923	16 167 26 806 20 236 19 017 19 552 18 034 22 800 22 754 22 160 15 511	509 2 205 2 399 385 265 232 427 341 269 198
981 982 983 984 985 985 986 987 988	181 197 207 204 244 231 212	22 402 20 906 27 516 25 569 27 037 28 761 27 061 23 258	1 950 1 737 2 077 1 922 2 335 2 739 2 277 2 030	1 543 938 1 442 056 1 533 922 1 393 118 1 706 874 1 394 492 1 288 135 1 641 622	25 517 30 619 34 777 32 493 37 985 37 754 35 969 46 463	249 281 282 290 349 330 179 152
'ear	Silver	Sulphur	Tin	Tungstic oxide (WO3)	Zinc	Coal production
	kg	tonnes	tonnes	tonnes	tonnes	tonnes
953	38 599 36 267 43 483	42 516 38 857 55 636	801 867 898	1 069 1 358 1 115	30 247 28 396 35 069	237 370 304 023 302 448
961	45 162 52 876 52 969 55 364 52 192 57 013 55 955 54 400 54 213 53 343	53 128 37 145 42 997 57 004 54 840 63 804 62 470 53 926 47 449 84 502	893 1 075 1 021 1 006 1 043 1 047 1 553 3 154 4 853 5 018	1 543 1 052 975 1 009 1 196 1 327 1 202 1 425 1 524 1 434	40 735 48 687 49 267 50 960 47 053 50 651 49 641 48 919 50 898 46 922	259 934 276 713 210 243 153 587 104 101 83 990 77 769 92 389 117 794 113 529
971 972 973 974 975 976 977 978 979 988	63 389 99 251 76 903 80 180 76 401 71 310 84 772 86 193 76 662 57 159	109 046 164 884 160 971 153 767 152 884 154 008 163 486 148 966 84 422 41 227	6 166 6 825 5 674 5 950 5 489 6 853 6 634 7 270 6 892 6 234	1 742 1 918 1 502 1 304 1 712 2 202 2 534 2 630 2 522 2 914	52 749 85 580 63 792 65 311 67 476 62 004 78 405 77 388 75 279 54 273	123 922 132 242 114 588 127 460 161 922 189 489 198 966 223 957 237 380 234 175
981 982 983 984 985 986 987 988	78 177 84 697 94 929 93 209 110 191 100 593 112 949 126 882	53 683 59 575 60 409 60 295 69 733 69 708 77 667 96 151	7 057 8 009 5 356 4 172 3 127 6 262 6 561 6 550	2 983 1 975 1 382 1 107 1 534 1 388 1 448	74 413 79 493 82 285 83 403 98 778 95 267 86 142 113 965	345 951 514 986 472 625 457 984 529 587 575 704 594 038 626 941

(Chapter 15)

Fisheries, Tasmania

			Production (b)							
	Boats	Persons		Fis	h					Gross
Year	engaged (a)	engaged (a)	Snoek (barra- couta)	Salmon (d)	Shark	Other	Southern rock lobster	Scallops	Abalone	value of produc- tion (c)
	no.	no.	'000 kg	'000 kg	'000 kg	'000 kg	'000 kg	'000 kg	'000 kg	\$'000
1955-56	n.a. n.a.	n.a. n.a. 968	1 580 576 711	50 116 147	392 291 413	319 170 167	852 1 108 1 329	738 2 625 2 043		882 1 012 1 612
1964-65 1965-66 1966-67 1967-68 1968-69	478 514 511 507 503 596 618 585 566 553	1 072 1 122 1 208 1 191 957 1 154 1 200 1 118 1 160 1 123	373 935 512 639 915 1 362 1 037 1 624 1 401 1 578	545 1 325 528 385 227 196 427 343 174 67	439 451 377 370 299 493 455 685 947 801	166 128 155 160 209 212 270 300 248 219	1 436 1 554 1 501 1 620 1 513 1 787 1 946 1 752 1 700 1 390	2 402 2 164 2 663 1 932 1 323 394 341 225 125 50	49 225 726 1 999 2 786 2 108 2 608	1 920 2 294 2 254 2 203 2 686 3 300 3 653 4 473 4 864 4 043
1973-74 1974-75	529 588 589 594 616 607 640 655 727	1 090 1 207 1 235 1 268 1 343 1 347 1 439 1 466 1 620 1 687	610 581 915 598 760 143 37 194 38 7	201 507 461 371 631 473 573 611 451 283	793 859 497 1 187 651 1 238 1 130 1 710 1 490 1 210	335 433 392 7 728 828 375 413 590 626 688	1 607 1 469 1 583 1 514 1 525 1 229 1 117 1 192 1 305 1 340	52 515 1 158 1 261 690 498 400 1 077 3 829	3 488 2 971 2 172 2 060 2 108 2 429 2 368 2 525 3 100 1 314	5 984 6 808 5 739 7 014 6 928 8 511 11 662 12 609 14 636 20 463
1982-83 1983-84 1984-85 1985-86		1 678 n.a. n.a. n.a. n.a. n.a.	2 1 2 16 4 75 25	200 417 211 137 443 885 535	1 288 1 086 793 614 1 121 680 579	1 037 994 841 623 (e) 6 934 (e) 23 575 (f) 44 553	1 553 1 713 1 887 1 805 1 916 1 456 1 582	3 359 7 577 11 573 8 702 2 301 3 022 5 020	3 743 4 194 2 968 4 769 4 215 3 558 3 245	26 514 32 896 31 140 39 133 47 036 59 292 91 004

(a) Year ended December of the first year named. (b) Landed at Tasmanian ports, estimated live weight. (c) Includes crabs, squid, oysters and seaweed. (d) Australian salmon. (e) Increase due to large catches of jack mackerel. (f) Increase due to inclusion of Atlantic salmon.

(Chapter 16)

Hydro-Electric Commission, Tasmania (a)

Year	Installed generator capacity (a)	Number of retail consumers	Gross revenue	Operating expenses and other charges
	MW	no.	\$'000	\$'000
1929-30	49	n.a.	692	636
1934-35	7.1	n.a.	814	754
1939-40	105	n.a.	1 212	1 172
1944-45	161	55 073	1 776	1 588
1949-50		75 927	2 938	2 926
1959-60	541	117 266	14 570	14 932
1969-70	1 032	146 958	37 296	35 095
1970-71	1 281	149 911	40 151	40 070
1971-72	1 200	152 934	46 286	46 278
1972-73	1.000	156 570	49 511	49 297
1973-74	1 0 10	160 307	52 730	54 026
1974-75	1 440	163 479	62 295	61 870
1975-76	1 100	167 507	72 699	72 312
1976-77	1 100	171 847	80 372	80 292
1977-78	1 525	176 005	95 519	95 269
1978-79	1.700	179 861	109 130	108 930
1979-80	1 700	183 607	120 505	119 993
1980-81	1 780	187 072	139 107	136 712
1981-82	1.000	189 723	165 236	159 270
1982-83	1.000	192 034	181 741	185 811
1000 04	1 940	195 370	215 628	218 674
1001.05	1 940	199 180	238 160	233 685
1985-86	2 056	203 472	256 174	246 195
1986-87		207 481	292 377	296 687
1987-88	2 315	211 527	322 885	328 398
1000 00	2 315	215 744	345 556	335 222

⁽a) Excludes King and Flinders Islands.

(Chapter 17)

Principal Articles Produced in Factories, Tasmania

			Foodstuffs			
Year	Whole milk (a)	Butter (a) (b)	Chee se (a) (c)	Bacon and ham (cured weight) (d)	Aerated waters	Refined zinc
	million litres	tonnes	tonnes	tonnes	'000 litres	tonnes
1939-40	4404	5 380	1 470	1 313	1 650	74 012
1949-50		5 614	428	1 007	4 510	85 122
1959-60		12 079	372	1 162	8 356	119 785
1960-61	120.0	10 552	399	1 138	8 656	127 957
1961-62		12 376	641	1 149	8 828	131 140
1962-63		13 405	681	1 201	9 683	138 391
1963-64		13 984	1 358	1 185	9 938	140 835
1964-65		14 218	2 388	1 190	10 310	141 006
1965-66		14 229	2 989	1 079	11 111	146 221
1966-67		14 541	3 822	1 262	11 583	146 227
1967-68		13 999	4 724	1 302	12 029	131 872
1968-69		16 017	5 820	1 416	12 644	151 094
1969-70		16 343	5 407	1 403	13 354	170 931
1970-71	449.8	15 273	5 556	1 803	14 049	162 271
1971-72	458.7	15 318	5 923	1 984	14 402	175 798
1972-73	423.8	12 947	7 218	1 902	15 236	193 782
1973-74	421.8	12 398	8 475	1 931	15 751	182 749
1974-75	438.3	12 196	12 387	2 169	14 845	152 749
1975-76	415.5	10 762	13 332	2 356	16 219	137 637
1976-77	405.0	9 707	13 156	2 434	18 786	170 685
1976-77	366.4	7 910	13 903	2 505	20 082	161 173
1977-78	364.9	7 075	17 494	2 457	19 834	204 623
1979-80	315.6	5 490	15 328	2 094	18 361	191 683
1980-81	. 288.0	4 234	14 147	2 375	19 397	188 471
1981-82	. 295.2	3 964	15 167	2 634	19 108	193 714
1982-83	. 322.7	5 768	14 100	2 661	n.p.	185 482
1983-84	. 339.2	6 191	14 080	2 519	16 623	187 399
1984-85	. 346.7	7 690	12 567	2 963	16 755	196 576
1985-86	. 351.1	6 180	16 695	3 258	17 537	195 916
1986-87	. 352.3	5 839	17 183	3 164	18 189	189 345
1987-88	. 306.0	3 885	16 255	3 066	21 136	186 563
1988-89	. 334.1	4 276	18 671	2 876	22 076	199 142

Principal Articles Produced in Factories, Tasmania - continued

	Che	micals, fertiliser	s, etc.	Sawn, peeled	Miscell	aneous
Year	Sulphuric acid	Super- phosphate	Sulphate of ammonia	and sliced timber (e)	Newsprint	Electricity
	tonnes	tonnes	tonnes	'000 m²	tonnes	GWh
1939-40	42 747	33 337 69 943 104 260	58 525	189.7 298.2 400.4	30 961 89 931	612 1 062 2 532
1960-61 1961-62 1961-63 1963-64 1963-65 1965-66 1965-67 1966-67 1969-70 1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1978-99	185 303 206 474 266 449 387 193 558 658 652 513 570 156 517 052 466 817 506 338 522 154 414 644	106 285 121 143 127 426 134 233 132 445 162 441 166 757 145 968 140 340 133 245 105 323 104 763 177 192 180 458 103 253 57 896 101 281 97 012 151 489 132 783	62 574 62 319 53 274 43 506 60 772 65 135 58 422 13 086 40 324 40 563 40 252 41 358 48 654 33 191 54 701 23 040 12 291 5 292 6 045 1 213	388.3 351.6 377.2 403.2 420.2 421.2 411.5 413.5 414.4 413.7 406.1 412.8 416.3 414.3 373.5 368.1 338.5 320.6 355.2	89 452 91 199 91 693 93 516 94 637 94 707 98 816 94 135 125 924 173 314 178 683 181 477 199 053 200 852 196 240 206 228 206 590 207 621 208 143 221 460	2 632 2 733 3 213 3 409 3 780 3 896 4 116 3 773 4 738 5 140 5 451 5 778 5 902 6 010 6 095 6 008 6 842 7 179 7 748 7 903
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1988-89	351 153 363 273 333 695 309 744	139 869 126 416 104 324 108 216 127 047 98 435 98 110 105 534 102 837	969 913 2 643 2 065 2 125	373.9 327.2 248.1 290.1 314.5 311.6 r 324.9 327.7 343.8	214 400 219 429 222 934 209 412 199 245 189 634 203 072 213 670 215 336	8 044 8 122 7 978 8 144 8 279 8 413 8 416 8 865 8 993

(a) Source: Tasmanian Department of Agriculture up to 1978-79; Australian Dairy Corporation from 1979-80. (b) Includes butter equivalent of butter oil and from 1965-66 excludes farm production. (c) Excludes farm production from 1965-66. (d) Includes non-factory production. From July 1970 all weights are on a bone-in basis; earlier figures include an element of unconverted bone-out weights. (e) Includes hardwood and softwood. (NOTE: Details of production of a number of important articles cannot be published because of confidentiality.)

Manufacturing, 1910 to 1967-1968, Tasmania

		Em	ployment ((a)	Salaries and	Value of	Value of	Value of	Land	Plant
Year	Factories at end of year	Males	Females	Persons	wages paid (b)	materials used	output (c)	production (d)	and buildings	and machinery
	no.	no.	no.	no.	\$m	\$m	\$m	\$m	\$m	\$m
1910 1915 1920 1924-25 1929-30 1934-35 1939-40 1940-41 1945-46 1946-47 1947-48 1948-49	589 616 675 845 926 980 1 002 1 082 1 169 1 225 1 346	8 277 7 161 8 746 9 016 8 547 8 321 11 754 12 341 15 105 16 186 17 208 18 508	1 703 1 259 1 479 1 982 2 273 2 234 2 916 3 498 4 130 3 751 3 965 4 094	9 980 8 420 10 225 10 998 10 820 10 555 14 670 15 839 19 235 19 937 21 173 22 602	n.a. 1.6 3.0 3.8 4.1 3.2 5.4 6.1 10.0 11.3 13.7	n.a. 4.4 8.5 6.9 8.0 6.3 10.8 12.4 20.6 22.7 27.3 34.3	n.a. 8.4 14.3 15.7 17.1 14.4 26.0 27.7 44.2 49.1 57.6 73.3	n.a. 3.8 5.5 7.3 7.1 6.3 12.5 12.6 18.4 21.3 24.5 32.1	2.0 2.3 2.0 4.2 6.0 5.4 7.6 8.5 10.6 11.4 12.5	2.1 2.5 3.9 13.5 13.9 12.1 13.6 15.1 16.5 17.0 19.8 24.5
1949-50 1950-51 1951-52 1952-53 1953-54 1954-55 1956-57 1957-58 1958-59 1959-60	1 486 1 512 1 504 1 545 . 1 597 1 594 . 1 595 . 1 655 1 666	19 302 19 454 19 934 19 621 20 249 21 045 22 128 22 128 22 482 23 081 23 504 24 408	4 204 4 373 4 093 3 874 4 340 4 407 4 934 5 188 5 003 4 920 5 254	23 506 23 827 24 027 23 495 24 589 25 452 27 062 27 670 28 084 28 424 29 662	19.3 23.5 29.4 32.0 34.8 37.7 43.2 47.3 50.6 51.7 57.6	43.5 58.3 71.8 67.3 74.9 84.9 95.9 101.3 100.6 103.1 119.8	90.2 117.2 143.9 142.0 155.8 177.2 207.6 220.8 227.7 236.6 268.1	38.7 49.2 59.6 61.0 66.1 76.2 91.9 97.4 103.7 108.6 120.4	17.3 20.7 25.0 29.9 54.0 59.2 93.2 112.9 118.9 123.7 144.0	27.5 34.3 41.2 45.2 55.0 59.8 80.8 89.7 93.7 96.5 107.3
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68	1 760 1 764 1 746 1 805 1 792 1 771	24 811 24 742 25 453 26 221 26 768 28 041 28 364 28 550	5 347 5 328 5 302 5 612 5 812 6 274 6 515 6 628	30 158 30 070 30 755 31 833 32 580 34 315 34 879 35 178	60.7 61.4 64.8 70.6 76.5 83.0 90.8 96.2	122.5 126.1 131.1 154.6 175.9 188.7 201.0 203.1	275.9 283.5 303.9 341.1 381.5 404.6 438.0 445.1	124.9 127.9 142.0 152.6 167.3 175.6 194.6 198.0	147.1 159.1 163.9 168.4 209.0 211.9 234.0 263.4	112.6 121.6 138.2 141.7 155.3 158.7 169.2 184.7

 ⁽a) Commencing with 1927-28, the number of persons employed is the average over the whole year; prior to the date the number represents the average over the period of operation.
 (b) Excludes amounts drawn by working proprietors.
 (c) Value of goods manufactured and work done.
 (d) Value of output less recorded costs of manufacture other than labour.

(Chapter 17)

Manufacturing, Tasmania (a)

Year (b)	Establish- ments operating at 30 June	Employment at 30 June (c)			Wages and salaries		Purchases, transfer in and selected	Value added	Fixed capital expenditure
	ai 30 June	Males	Females	Persons	(d)	Turnover (e)	expenses (f)	(g)	(h)
	no.	no.	no.	no.	\$m	\$m	\$m	\$m	\$m
1968-69	951	25 346	6 743	32 089	95.1	487.1	301.7	197.5	35.1
1969-70	945	25 523	6 891	32 414	102.1	541.6	317.5	226.1	49.4
1971-72	933	24 891	6 253	31 144	119.4	595.6	359.3	245.1	25.9
1972-73	912	25 077	6 427	31 504	130.7	678.8	394.6	283.4	24.9
1973-74	935	25 708	6 651	32 359	161.4	818.0	494.8	340.3	24.8
	628	23 430	5 278	28 708	194.9	905.7	558.6	402.3	53.1
1975-76	667	23 243	5 135	28 378	211.3	1 029.6	577.4	456.0	43.9
1976-77	617	23 335	4 973	28 308	246.0	1 199.3	694.4	533.3	34.5
1977-78	599	21 907	5 130	27 037	258.3	1 246.0	742.2	498.0	47.2
1978-79	552	21 397	4 932	26 329	266.1	1 401.5	861.7	549.4	77.1
1979-80	543	21 572	4 857	26 429	298.2	1 656.1	1 045.9	653.8	55.9
1980-81	558	21 783	4 665	26 448	346.6	1 867.1	1 175.5	713.4	60.2
1981-82	555	20 626	4 630	25 256	370.2	1 898.0	1 237.5	713.1	84.4
1982-83	528	19 302	4 551	23 853	387.7	1 968.5	1 260.4	695.1	45.0
1983-84	558	19 695	4 556	24 251	414.3	2 220.5	1 388.7	837.7	61.2
1984-85	575	19 934	4 639	24 573	443.0	2 422.9	1 548.9	937.9	52.3
1986-87	633	19 496	4 875	24 371	526.4	3 050.2	1 838.9	1 236.5	n.a.
1987-88	686	19 832	4 996	24 828	562.6	3 242.6	n.a.	n.a.	n.a.

(a) Details are not comparable with those contained in the table: 'Manufacturing, 1910-1967-68, Tasmania'. (b) No census was conducted in 1970-71 and 1985-86. From 1974-75 figures exclude details for single establishment enterprises with less than four persons employed. (c) Includes working proprietors and partners. (e) Turnover plus increase (or less decrease) in the value of stocks less purchases, transfers in and selected expenses. (f) Includes transfers in of goods from other establishments of the enterprise, charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses and sales commission payments. (g) Comprises sales of goods, transfers out of goods to establishments of the same enterprise, bounties and subsidies on production, all other operating revenue from outside the enterprise and capital work done for own use, rental or lease. (h) Outlay on fixed tangible assets less disposals.

(Chapter 18)

Building Approvals, Tasmania

V	New	houses	Other ne	w dwellings	Total ne	w dwellings	Alterations and additions to dwellings	Other building	Total all building
Year	No.	Value	No.	Value	No.	Value	Value (a)	Value	Value
		\$'000		\$'000		\$'000	\$'000	\$'000	\$'000
1959-60	2 546	16 134	187	926	2 733	17 060 ر		22 099	39 159
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68 1968-69 1969-70	2 527 2 471 2 648 2 669 2 428 3 218 3 309 2 694	15 190 16 486 16 542 18 845 20 209 19 083 25 777 30 083 25 893 26 631	152 119 173 165 252 218 227 425 438 781	895 467 814 886 1 413 1 355 1 476 2 522 2 904 5 545	2 425 2 646 2 644 2 813 2 921 2 646 3 445 3 734 3 132 3 437	16 085 16 953 17 356 19 731 21 622 20 438 27 253 32 605 28 797 32 176	n.a.	14 454 20 851 20 060 14 790 23 250 28 432 26 340 39 414 23 494 27 358	30 539 37 804 37 416 34 521 44 872 48 870 53 593 72 019 52 291 59 534
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80	2 484 3 058 3 282 2 627 3 380 3 314 2 778 2 834	26 618 28 430 39 454 51 798 51 460 82 908 89 367 78 138 83 429 81 479	610 909 768 893 732 1 056 1 088 911 810 804	4 036 6 773 6 393 8 771 9 678 18 715 21 159 17 959 17 779 17 165	3 191 3 393 3 826 4 175 3 359 4 436 4 402 3 689 3 644 3 315	30 654 35 203 45 847 60 569 61 138 101 623 110 526 96 097 101 208 98 644	797 1 163 2 326 3 877 4 817 5 089 5 828	37 337 34 879 44 574 39 353 50 433 56 441 86 160 86 816 77 119 91 442	67 991 70 083 90 421 100 719 112 736 160 390 200 562 187 729 183 416 195 912
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1988-89(b)(c)	1 989 2 057 2 918 3 415 3 020	81 713 72 285 76 438 117 045 155 001 152 728 144 937 157 965 189 436	873 741 670 769 955 1 088 991 826 1 024	19 992 18 051 17 111 22 215 31 252 42 025 38 085 34 816 46 410	3 200 2 730 2 727 3 687 4 370 4 108 3 638 3 498 3 914	101 705 90 336 93 549 139 260 186 253 194 753 183 022 192 782 235 846	6 950 7 786 7 653 10 268 13 191 16 337 19 513 23 537 27 892	73 190 90 371 62 242 80 150 141 816 149 411 179 215 172 380 197 920	181 845 188 493 163 444 229 678 341 260 360 500 381 750 388 699 461 657

⁽a) Prior to 1973-74, alterations and additions valued at \$10 000 or more to dwellings were included with the number and value of dwellings. (b) Prior to 1988-89, all new residential building jobs were included; from 1988-89 only new residential building jobs with a minimum value of \$10 000 are included. (c) Prior to 1988-89, all non-residential building jobs valued at \$10 000 or more are included; from 1988-89 only non-residential building valued at \$30 000 or more are included.

(Chapter 18)

Summary of Dwellings at Census Dates, Tasmania

April 1921 45 818 2 934 48 752	June 1933 52 484 2 421 54 905	June 1947 62 484 2 531 64 835	June 1954 78 789 5 288	June 1961 91 528 8 582	June 1966	June 1971	June 1976	June 1981	June 1986
45 818 2 934	52 484 2 421	62 484 2 531	78 789 5 288	91 528	99 366	110 483			1986
2 934	2 421	2 531	5 288				122 573		
2 934	2 421	2 531	5 288				122 573		
2 934	2 421	2 531	5 288				122 573		
				8 582	10 000			136 269	150 142
48 752	54 905	64 835			10 800	13 302	15 786	17 765	19 470
			84 077	99 840	110 166	123 785	138 359	154 034	169 612
4.67	4.34	4.11	3.92	3.84	3.74	3.53	3.29	3.07	2.91
42 028	48 479	58 937	74 244	83 736	90 131	99 401 .	100 534	119 573	130 328
		2 604	2 534	5 574	7 058	8 417			
2 404	2 831	} _ 00.	2 00.	0011	, 000		21 298	16 025	19 130
	2 001	461	869	888	1 093	1 785		10 020	15 100
44 432	51 310	61 462	77 647	90 198	98 282	109 603	121 832	135 598	149 458
	51 510	01 102	1, 01,	30 130	70 202	105 005	121 032	100 000	115 150
16 851	20 404	28 377	38 436	12 806			38 852	44 740	58 157
10 051	20 404	20 311	36 430	42 690	67 855	73 267	30 032	77 /70	30 137
4 364	3 086	4 140	0.810	10 006	07 033	15 201 4	11 132	44 977	47 588
					25 507	30 593			36 748
17 031	22 /34	20 011	20 991	23 730	23 371	20 202	27 030	33 303	30 140
	1 196	2 969	2 410	2 259	5 000	5 753	8 010	11 072	6 307
	16 851 4 364 19 037	16 851 20 404 4 364 3 986	16 851 20 404 28 377 4 364 3 986 4 140 19 037 22 734 26 077	16 851 20 404 28 377 38 436 4 364 3 986 4 140 9 810 19 037 22 734 26 077 26 991	16 851 20 404 28 377 38 436 42 896 4 364 3 986 4 140 9 810 19 006 19 037 22 734 26 077 26 991 25 938	16 851 20 404 28 377 38 436 42 896 4 364 3 986 4 140 9 810 19 006 19 037 22 734 26 077 26 991 25 938 25 597	16 851 20 404 28 377 38 436 42 896 4 364 3 986 4 140 9 810 19 006 19 037 22 734 26 077 26 991 25 938 25 597 30 583	16 851 20 404 28 377 38 436 42 896 4364 3986 4 140 9 810 19 006 19 007 22 734 26 077 26 991 25 938 25 597 30 583 38 852 44 432 29 638	16 851

⁽a) Separate house for 1976.

(Chapter 18) Value of Building: Commenced, Completed and Under Construction, Tasmania (\$'000)

	Building construction												
	D. 21.	Commenced			Completed			Under construction at 30 June					
Year	Building approvals	New dwellings	Other building	Total all building	New dwellings	Other building	Total all building	New dwellings	Other building	Total all building			
1946-47	6 726 8 358 11 742 16 740	3 728 5 256 7 960 11 702	1 708 1 958 2 782 5 056	5 436 7 214 10 742 16 758	2 308 3 492 6 042 8 426	526 1 066 1 578 2 258	2 834 4 558 7 620 10 684	3 614 5 532 7 670 11 368	1 904 2 760 4 074 6 612	5 518 8 292 11 744 17 980			
1950-51 1951-52 1952-53 1953-54 1954-55 1955-56 1956-57 1957-58 1958-59 1959-60	21 694 20 042 15 984 21 646 25 612 25 074 30 964 27 232 27 592 39 159	15 000 15 360 10 664 13 552 15 244 13 842 15 138 14 980 16 662 15 834	5 672 6 766 2 558 4 896 6 428 5 936 13 138 10 486 12 156 20 652	20 672 22 126 13 222 18 448 21 672 19 778 28 276 25 466 28 818 36 486	13 508 16 414 15 252 13 520 13 092 15 138 16 434 15 844 15 986 16 570	3 298 4 608 6 078 5 864 8 206 10 458 8 784 9 836 10 914 15 036	16 806 21 022 21 330 19 384 21 298 25 596 25 218 25 680 26 900 31 606	14 250 14 504 10 608 11 532 13 992 13 230 12 420 11 866 12 742 12 026	10 106 13 036 10 380 12 032 10 806 6 498 11 750 12 026 13 364 19 156	24 356 27 540 20 988 23 564 24 798 19 728 24 170 23 892 26 106 31 182			
1960-61 1961-62 1962-63 1963-64 1963-66 1963-66 1965-66 1966-67 1967-68 1968-69 1968-69	30 539 37 804 37 416 34 521 44 872 48 870 53 593 72 021 52 291 59 534	15 936 17 026 16 668 18 944 20 922 19 200 25 869 29 791 28 011 32 326	12 344 18 360 17 944 15 720 21 118 24 589 36 208 33 359 28 191 29 805	28 280 35 386 34 612 34 664 42 040 43 789 62 070 63 153 56 202 62 131	17 206 16 630 16 892 18 070 20 060 19 010 23 230 30 078 28 142 32 170	16 822 16 824 17 240 15 906 17 684 20 670 24 986 31 805 28 807 34 282	34 028 33 454 34 128 33 976 37 744 39 680 48 218 61 881 56 947 66 452	10 912 11 136 10 912 11 764 12 628 12 761 15 394 15 095 14 634 14 675	15 016 16 640 17 500 17 330 20 738 24 651 35 875 37 411 37 262 36 347	25 928 27 776 28 412 29 094 33 366 37 412 51 269 52 504 51 896 51 022			
1970-71 1971-72 1972-73 1973-74 (a) 1974-75 1975-76 1976-77 1977-78 1978-79	67 991 70 083 90 421 100 719 112 736 160 390 200 562 187 729 183 416 195 912	32 233 32 219 43 328 57 579 59 641 94 481 100 636 95 941 105 265 95 771	37 956 32 100 47 279 49 546 53 539 62 360 77 938 96 314 106 141 82 821	70 189 64 319 90 607 107 125 113 180 156 840 178 574 192 255 211 406 178 591	29 275 31 699 36 190 48 259 58 182 77 130 102 888 105 701 99 460 106 452	30 409 38 018 41 915 40 687 41 311 67 979 71 674 87 319 74 968 111 180	59 684 69 717 78 105 88 946 99 493 145 109 174 563 193 019 174 427 217 633	17 906 19 262 27 418 38 416 42 436 65 067 67 915 61 583 73 161 62 278	45 559 42 374 49 104 58 947 73 883 75 427 85 758 99 732 133 694 117 250	63 465 61 636 76 522 97 363 116 319 140 494 153 674 161 316 206 854 179 529			
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1988-89 (b)(c)	181 845 188 493 163 444 229 678 341 260 360 500 381 750 388 699 461 657	109 700 88 800 80 900 122 000 171 700 182 600 170 600 180 500 222 500	99 727 92 800 78 500 80 000 130 200 196 900 198 800 193 700 257 500	209 400 181 600 159 500 202 000 301 900 379 600 374 200 480 000	111 600 93 500 79 000 107 300 150 300 166 000 166 300 174 200 181 900	122 800 98 000 111 100 105 500 85 000 118 200 174 100 225 300 217 100	234 400 191 500 190 100 212 800 235 300 284 200 340 400 399 500 399 000	56 800 48 500 49 500 63 600 85 600 103 000 r 111 700 118 500 165 000	109 900 106 100 71 300 46 400 96 600 178 400 205 600 181 300 233 200	166 700 154 600 120 800 110 000 182 200 281 400 r 317 300 299 800 398 200			

⁽a) Alterations and additions to dwellings valued at \$10 000 and over are included with the value of dwellings up to 1972-73 but excluded thereafter: from 1973-74 the value of alterations and additions to dwellings valued at \$10 000 and over is included with 'other building'.

⁽b) All approved new residential building jobs are included up to 1987-88; from 1988-89 only approved new residential building jobs valued at \$5000 or more are included. For building construction, new residential building jobs have a minimum value of \$10 000.

⁽c) All approved non-residential building jobs valued at \$10 000 or more are included up to 1987-88; from 1988-89 only approved non-residential building jobs valued at \$30 000 or more are included.

(Chapter 19)

Postal Services, Tasmania

		Mail posted received f	Security	
Year	Letters and postcards	Newspapers and packets	Parcels	services (registered articles)
	'000	'000	'000	'000
1929-30	39 956	7 128	198	307
1939-40	33 874	5 525	132	314
1949-50	50 038	8 440	368	674
1959-60	43 020	9 629	233	456
1969-70	58 824	8 953	300	312
1970-71	57 916	8 640	353	313
	54 780	6 773	352	268
1972-73	63	187	358	228
1973-74		272	289	203
1974-75		644	308	193
1975-76	44 829	5 528	220	132
1976-77	45 406	5 627	310	126
1977-78	48 690	7 569	342	124
1978-79	51 828	12 252	379	121
1979-80	53 902	10 962	444	119
1980-81	57 204	6 628	544	127
1981-82	51 503	5 773	543	125
1982-83	49 603	5 986	548	116
1983-84	50 669	6 459	550	108
1984-85	53 684	6 736	629	110
1984-85	53 995	6 511	568	113
1986-87	55 128	7 172	535	93

(Chapter 19) Telecommunications, Radiocommunications, Broadcasting and Television, Tasmania

	Telegran	ns		Telephones		Radiocommunication, broadcasting and television				
Year	Despatched to and received	Despatched to places			ne services ed at end period	stations				
	from other countries	within Australia	Telephone exchanges	Lines	Instruments	Radio communic- ation	Broadcasting	Television		
	'000	'000	no.	'000	'000	no.	no.	no.		
1949-50 1959-60		455 471 952 537 550 582 621	360 357 370 391 365 349 331	12 15 23 47 59 62 65	15 19 31 63 82 86 89	20 25 198 882 2 574 2 951 3 561	3 11 11 12 12 12 12	 2 4 4 4		
1968-69	(a) 21 24 24	575 562 542	312 288 273	67 70 75	93 98 105	3 856 4 377 4 994	12 12 12	4 4 4		
1001 00	36 36	499 458	257 238	78 80	114 113	5 499 5 892	12 12	4 5		
1972-73	47 47 48 33 32 29 24 11	72 24 56 98 42	230 224 212 206 198 197 196	85 90 96 100 105 112 118 125	118 127 133 140 146 155 164 174	6 390 6 570 7 347 7 915 8 687 (b) 15 612 15 008 15 383	12 12 12 12 15 15 15	5 5 5 5 5 5 5 5		
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1988-89			197 197 197 197 197 197 200 201 203	133 139 145 151 162 169 177 182 190	202 192 212 231 247 n.a. n.a. n.a.	13 746 13 413 21 204 21 609 23 262 21 906 25 181 26 388 28 455	18 18 18 19 19 20 21 23 25	5 5 5 5 5 6 6 5 5		

⁽a) From 1967-68 excludes telegrams received, details of which are no longer available. (b) Includes licensed Citizens Band Radio Service operators from 1977-78.

STATISTICAL SUMMARY

(Chapter 19)

Motor Vehicle Registrations, Tasmania (a)

	М	lotor vehicles	on the register	at end of	year	New motor	vehicles register	red during	year
Year	Motor c station Number ('000)		Commercial vehicles ('000)	Motor cycles ('000)	Total ('000)	Motor cars and station wagons	Commer- cial vehicles	Motor cycles	Total
1924-25 1925-26 1926-27 1927-28 1928-29 1929-30	7.1 8.4 9.7 11.4	36.9 30.4 25.1 22.0 19.0 17.6	(b) 0.8 1.0 1.2 1.6 1.9 (c) 2.2	2.7 3.0 3.5 3.9 4.4 4.8	9.3 11.1 13.1 15.2 17.6 19.5	n.a. 1 627	n.a. (c) 552	n.a. 939	n.a. 3 118
1930-31 1931-32 1932-33 1933-34 1934-35 1935-36 1936-37 1937-38 1938-39 1939-40	11.3 11.6 12.0 12.9 14.0 15.1 16.6	18.3 20.0 19.6 19.0 17.8 16.4 15.4 14.1 13.4	2.2 2.2 2.5 2.7 3.0 3.6 4.0 4.5 5.0 5.2	4.3 3.7 3.7 3.8 3.9 3.9 3.6 3.6 3.7 3.4	18.5 17.2 17.8 18.5 19.8 21.6 22.7 24.8 26.4 26.2	n.a. 982 n.a. 1 572 1 802 2 010 1 400	n.a. 422 n.a. 620 707 700 540	n.a. 171 n.a. 281 287 350 176	n.a. 1 575 n.a. 2 473 2 796 3 060 2 116
1940-41 1941-42 1942-43 1943-44 1944-45 1945-46 1946-47 1947-48 1948-49 1949-50	. 14.2 . 15.8 . 16.7 . 17.1 . 17.4 . 18.5 . 19.9 . 22.5	13.9 17.0 15.4 14.7 14.5 14.5 13.9 13.1 11.9	5.5 5.4 5.6 6.3 7.0 7.8 9.0 10.2 11.7 12.9	3.2 2.2 2.5 2.6 2.8 3.2 3.6 4.1 4.7	26.1 21.9 23.9 25.6 26.8 28.4 31.2 34.2 38.9 43.2	553 127 69 29 26 43 741 1 541 2 611 3 311	359 156 91 523 331 351 667 1 084 1 202 1 565	90 13 3 1 73 472 621 812 886	1 002 296 163 552 358 467 1 880 3 246 4 625 5 762
1950-51 1951-52 1952-53 1953-54 1954-55 1955-56 1956-57 1957-58 1958-59 1959-60	28.8 32.5 35.4 40.0 44.9 48.0 51.7 55.9	9.9 9.1 8.6 7.7 7.0 6.6 6.3 6.0 5.7 5.4	15.1 16.8 19.4 19.7 21.5 21.9 22.6 23.9 25.0 26.4	5.3 5.7 5.7 5.6 5.3 4.8 4.4 4.0 3.6 3.1	49.2 55.1 60.5 65.4 71.7 74.7 78.6 83.8 87.7 93.2	4 187 4 267 3 368 4 718 5 738 5 457 5 309 5 337 5 362 6 527	2 319 2 073 1 724 1 896 2 285 2 179 1 988 1 944 2 113 2 115	960 938 474 450 417 332 340 225 176 96	7 466 7 278 5 566 7 064 8 440 7 968 7 637 7 506 7 651 8 738
1960-61 1961-62 1962-63 1962-64 1964-65 1965-66 1966-67 1967-68 1968-69 1969-70	. 72.8 . 77.9 . 84.4 . 91.3 . 96.8 . 101.7 . 107.7 . 113.7	5.1 4.9 4.6 4.3 4.0 3.8 3.7 3.5 3.4	26.7 27.4 27.5 28.0 28.9 29.7 30.2 31.1 32.2 32.6	2.6 2.4 1.9 1.7 1.5 1.6 2.2 2.8 3.1	97.4 102.6 107.3 114.1 121.7 128.0 133.5 141.0 148.7 154.3	6 723 6 931 9 003 10 268 10 522 10 133 10 390 11 738 10 845 11 399	2 058 1 778 1 986 2 343 2 389 2 878 2 611 2 412 2 529 2 456	61 59 52 53 69 207 380 751 781 799	8 842 8 768 11 041 12 664 12 980 13 218 13 381 14 901 14 155 14 654
1970-71 1971-72 1972-73 1972-74 1974-75 1975-76 1975-77 1977-78 1978-79 1979-80	. 135.4 . 141.2 . 150.3 . 156.9 . 162.7 . 171.9 . 178.8	3.1 3.0 2.9 2.8 2.7 2.6 2.5 2.4 2.4	32.9 33.8 34.6 35.3 36.6 39.1 40.5 41.2 42.9 47.5	3.5 3.8 4.5 6.1 7.4 6.8 6.2 5.0 4.8 4.7	161.3 167.8 174.5 182.6 194.3 202.8 209.4 218.1 226.6 229.5	11 792 11 961 12 970 13 674 16 097 14 410 14 520 13 884 13 928 13 333	2 550 2 492 2 813 2 846 3 980 3 971 4 260 4 170 3 401 3 454	794 978 1 343 2 600 2 749 1 831 1 428 972 892 1 089	15 136 15 431 17 126 19 120 22 826 20 212 20 208 19 026 18 221 17 876
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88	. 186.5 . 191.0 . 195.0 . 201.7 . 206.2 . 207.0	2.3 2.3 2.3 2.2 2.2 2.2 2.2 2.2	49.0 50.5 52.5 54.8 58.3 60.5 61.6 62.0	4.9 5.1 5.8 6.1 6.4 6.5 6.3 5.9	237.4 242.1 249.3 255.9 266.4 273.2 274.9 276.5	13 563 12 210 11 279 13 214 13 840 12 811 9 206 8 597	3 444 3 302 3 209 3 791 4 731 3 969 2 667 2 106	1 278 1 110 990 1 027 991 752 526 279	18 285 16 622 15 478 18 032 19 562 17 532 12 399 10 982

⁽a) Includes State Government and Commonwealth Government-owned vehicles but excludes those belonging to the Defence Services.(b) Trucks only.(c) From 1929-30 includes trucks, utilities, panel vans and omnibuses.

(Chapter 19)

Motor Vehicles on Register and Traffic Accidents, Tasmania

		vehicles on the			Traffic acc	idents involving	casualties					
Year	register at end of year (a)				Accidents		Accidents		Persons killed		Persons injured	
	Number ('000)	Persons per vehicle registered	Number	Per 10 000 vehicles registered (b)	Number	Per 100 000 vehicles registered (b)	Number	Per 10 000 vehicles registered (b)				
1959-60		3.7 2.5	743 1 413	82 93	79 122	8.7 8.0	1 004 2 268	111 150				
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80	. 167.8 . 174.5 . 182.6 . 194.3 . 202.8 . 209.4 . 218.1	2.4 2.3 2.3 2.2 2.1 2.0 2.0 1.9 1.9	1 396 1 371 1 423 1 454 1 466 1 502 1 606 1 674 1 537 1 510	89 83 83 81 77 74 77 78 69 66	124 118 83 126 120 107 103 118 98 77	7.9 7.2 4.8 7.0 6.3 5.3 4.9 5.5 4.4 3.4	2 031 1 984 2 052 2 046 2 061 2 160 2 314 2 402 2 113 2 140	129 120 119 114 108 107 110 112 95 94				
1980-81 1981-82 1982-83 (c) 1983-84 1984-85 1985-86 1986-87 1987-88	. 242.1 . 249.3 . 255.9 . 266.4 . 273.2 . 274.9	1.8 1.8 1.7 1.7 1.7 1.6 1.6	1 634 1 532 1 114 1 333 1 435 1 514 1 385 1 453	70 64 46 52 54 55 50 53	120 114 73 76 85 76 90 75	5.1 4.8 3.0 3.0 3.2 2.8 3.3 2.7	2 186 2 209 1 524 1 856 1 952 2 152 1 906 1 958	94 92 62 73 73 79 69 71				

⁽a) Includes cars, commercial vehicles, motor cycles and Commonwealth-owned vehicles other than Defence Services vehicles.

(Chapter 19)

Metropolitan Transport Trust Passenger Services, Tasmania (a)

		Hobart d						
Year	Route kilometres	Hob	part	Launc	eston	Revenue		
reur	open for traffic	Vehicle Passenger kilometres journeys		Vehicle kilometres	Passenger journeys	(b)	\$'000 \$'000 1 690 2 749 3 008 3 122 3 250 3 358 3 741 3 949 4 333	
		daily average	daily average	daily average	daily average	\$'000	\$'000	
		10 602 17 239	50 028 43 383	4 060 4 760	18 006 14 767	1 304 1 964		
1966-67 1967-68 1968-69 1969-70		17 323 17 408 17 745 17 886	42 967 41 803 40 675 39 932	4 843 4 947 4 730 4 801	14 728 13 953 13 365 13 018	2 124 2 158 2 270 2 332	3 122 3 250	
970-71	290 291 308 314 364 357 358 365 366 368	18 055 17 703 17 106 17 585 19 031 19 850 20 791 21 405 20 685 20 333	40 058 37 584 36 572 38 027 40 791 40 646 39 507 39 314 34 870 34 384	4 633 4 585 4 530 4 604 4 650 4 704 4 219 4 269 4 148 4 345	12 521 11 708 11 397 11 988 12 055 11 969 11 283 10 767 9 552 9 515	2 321 2 639 2 659 2 751 2 916 3 000 2 862 3 547 4 186 4 183		
982-83	344 352 357 378 381 384 387 n.a.	21 551 20 922 20 871 20 630 20 991 21 261 21 221 21 404 21 255	34 161 28 803 29 107 r 28 121 r 27 997 r 26 721 r 25 921 25 562 26 512	4 306 4 175 4 015 4 002 3 999 4 069 4 106 4 138 3 882	9 368 7 836 7 762 r 7 381 r 7 414 r 7 508 r 7 025 6 945 6 436	4 896 5 625 5 710 5 641 5 646 6 664 7 806 8 372 9 023	13 458 14 524 15 453 16 715 17 573 19 880 21 387 22 647 24 575	

⁽a) Includes tram, omnibus and trolley-bus services originally under municipal control but taken over by Metropolitan Transport Trust on 1.7.55. Trams ceased operating: Hobart 21.10.60; Launceston 13.12.52. (b) Prior to 1955-56 includes government grants: see note (a) above. (c) Includes interest, redemption and depreciation. (d) The method used for calculating passengers changed after a change in ticketing procedures revealed inaccuracies. (e) Since the introduction of Metrofare in February 1988 passenger transfers at Springfield Interchange have been included as passenger trips.

⁽b) Based on average number of motor vehicles (including motor cycles) on the register. (c) Random breath tests introduced.

Consumer Price Index Numbers, Hobart (a)

							Health		All	groups
Year	Food	Clothing	Housing	equipment and operation	Transport- ation	Tobacco and alcohol	and personal care	Recreation and education	Index no.	Increase per cent (b)
1949-50	13.2 23.9 26.5	17.6 26.5 28.8	12.1 18.4 24.6						14.8 24.0 27.6	6.5
1960-61	29.5 28.8 28.4 28.4 30.0 31.6	29.2 29.6 29.8 29.9 30.3 30.7	26.0 27.1 28.0 28.8 30.0 30.8	n.a.	n.a.	n.a.	n.a.	n.a.	29.1 29.3 29.3 29.6 30.5 31.6	5.4 0.7 1.0 3.0 3.6
1966-67	32.0 34.1 33.6 34.0	31.3 32.0 32.7 33.8	31.7 32.9 34.4 35.7	34.9 36.2 37.0 37.5	31.1 32.4 33.6 34.6	32.2 32.9 33.8 34.5	n.a. 29.1	n.a.	$ \begin{cases} 32.3 \\ 33.7 \\ 34.2 \\ 35.0 \end{cases} $	2.2 4.3 1.5 2.3
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80	35.0 36.1 38.3 45.2 50.7 56.7 64.4 71.2 80.3 91.6	35.0 37.1 39.3 44.5 53.7 62.8 72.7 80.4 86.7 93.1	37.2 39.4 41.8 46.6 57.4 68.6 77.7 83.9 88.2 93.1	38.7 41.7 43.2 46.4 54.6 64.2 70.5 76.8 82.4 89.8	36.1 39.4 41.1 43.4 51.4 61.2 68.6 75.1 79.7 90.6	37.2 40.1 43.4 49.2 54.5 66.4 71.5 74.7 86.4 93.1	29.3 34.0 35.7 40.0 49.4 39.3 71.0 85.8 82.9 90.7	n.a.	36.3 38.7 40.9 46.0 53.8 61.3 70.2 77.1 83.1 91.6	3.7 6.6 5.7 12.5 17.0 13.9 14.5 9.8 7.8 10.2
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87 1987-88 1988-89	100.0 108.7 118.6 128.2 136.1 145.8 158.9 169.7 181.5	100.0 106.4 112.8 119.5 127.6 138.3 151.9 162.0 173.3	100.0 107.4 116.3 123.9 135.2 149.0 157.8 164.0 176.7	100.0 110.0 121.7 132.8 139.5 148.8 160.9 171.9 182.0	100.0 112.8 126.8 136.7 143.9 157.8 176.9 190.3 199.0	100.0 109.1 124.0 137.8 151.3 167.0 188.6 210.7 226.7	100.0 120.5 143.0 131.5 110.7 117.9 138.4 154.3 164.6	109.4 117.3 122.3 135.2 146.3 157.4 165.9	100.0 110.0 121.8 129.9 136.1 147.9 162.5 174.4 185.3	9.2 10.0 10.7 6.7 4.8 8.7 9.9 7.4 6.3

⁽a) Base of each index is year 1980-81 = 100.0 except 'Recreation and education' which is March quarter 1981-82.

(Chapter 21)

Value of Retail Sales by Commodity Groups, Tasmania (\$ million)

Year	Groceries	Fresh meat	Other food (a)	Beer, wine, spirits (b)	Clothing, drapery, footwear	Domestic hardware (c)		l Furniture, floor coverings	Other goods (e)	Total (excl. motor vehicles, etc.)
1952-53 (f)	23.4	9.1 11.1 13.9	11.9 15.1 20.0	10.7 14.8 17.0	25.7 30.4 35.3	3.1 3.3 4.1	4.6 6.3 10.7	4.9 6.4 7.2	16.3 20.3 29.3	103.6 131.1 166.1
1965-66	36.5 37.3 48.7	17.8 19.4 19.9 20.7 21.0	22.7 24.2 26.1 23.1 30.7	20.3 23.3 25.0 30.9 28.7	41.6 45.5 48.9 49.5 62.2	4.5 5.1 5.5 8.8 6.1	11.2 11.7 12.4 13.4 13.3	8.7 10.1 11.2 12.6 12.9	36.3 39.2 41.6 49.9 49.4	198.3 215.0 227.9 257.6 256.0
1970-71 1971-72 1972-73 1972-74 (f) 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80 (f)	50.0 n.a. 63.8 76.7 87.3 110.4 120.8 132.0	21.3 22.2 n.a. 26.2 31.3 31.2 35.7 37.6 48.2 55.9	32.6 33.9 n.a. 35.8 47.2 49.7 58.0 64.0 72.8 71.9	30.7 32.4 n.a. 47.8 61.7 68.8 77.5 91.6 100.5 105.6	55.6 59.7 n.a. 76.1 100.3 101.6 117.3 133.1 141.2 151.0	6.7 7.5 n.a. 14.4 17.1 22.1 24.5 29.0 29.5 28.2	13.6 15.4 n.a. 24.5 36.1 48.3 56.4 53.1 53.2 53.0	13.5 14.4 n.a. 21.4 28.9 31.7 34.6 37.8 38.8 39.0	52.9 55.8 n.a. 64.5 86.1 91.6 103.6 118.4 134.3 144.3	272.1 291.3 319.5 374.5 485.4 532.3 618.0 685.4 750.5 816.9
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86	195.1 234.8 276.1 324.4	55.2 60.3 63.6 73.4 76.5 79.9	99.0 106.8 91.4 99.7 108.6 126.1	114.0 122.3 119.5 129.7 153.5 171.5	154.6 166.6 186.6 198.9 221.8 216.0	35.5 38.8 39.5 46.2 44.8 51.6	54.1 57.0 69.0 78.6 78.2 86.8	39.9 42.3 41.5 49.7 58.4 56.6	161.9 178.9 184.4 202.3 229.5 249.0	885.7 968.1 1 030.5 1 154.6 1 296.0 1 399.0

⁽a) Includes fresh fruit and vegetables, confectionery, soft drinks, ice-cream, cakes, pastry, cooked provisions, fish, etc., but excludes some delivered milk and bread. (b) Excludes sales from licensed clubs up to 1982-83. (c) Excludes basic building materials (e.g. timber, roofing tiles, etc.), builders' hardware and supplies. (d) Includes radios, televisions and accessories, musical instruments, domestic refrigerators, etc. (e) Includes tobacco, cigarettes, newspapers, books, stationery, chemists' goods, jewellery, etc. (f) Census figures.

⁽b) Over previous year.

(Chapter 20) Value of Trade by Sea and Air and Vessels Entered and Cleared, Tasmanian Ports

		Im	ports			Exports				
	Overseas	Inter	rstate		Overseas (b) Inters	state (b)		10-	manian ports
Year	By sea and air	By sea (a)	By air	Total (a)	By sea and air	By sea	By air	Total	Over.	seas and inter state (c)
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	no.	'000 net tons
1830 1840 1850 1860 1870 1880 1890 1900 1910 1919-20 1929-30 1939-40	n.a. n.a. 1 686 698 738 1 594 1 402 1 662 1 626 3 668	n.a. n.a. 450 888 2 000 2 202 2 746 (d) (d) 16 028 21 780	n.a.	510 1 976 1 318 2 136 1 586 2 738 3 796 4 148 n.a. n.a. 19 696 24 968	n.a. n.a. 1 544 562 1 568 792 3 078 1 040 4 022 4 978 4 852	n.a. n.a. 380 736 1 456 2 182 2 144 (d) (d) 13 198 20 954	n.a.	292 1 734 1 288 1 924 1 298 3 024 2 974 5 222 n.a. 18 176 25 806	101 492 674 806 613 654 746 741 979 841 1 076 1 243	27 85 104 116 106 205 476 619 1 211 632 1 390 1 512
1940-41 1941-42 1942-43 1943-44 1944-45 1945-46 1946-47 1947-48 1948-49 1949-50	1 918 2 300 2 384 1 664 2 614 3 626 8 564 12 512	21 876 24 276 26 236 26 162 27 796 29 400 37 810 44 000 46 674 51 218 (e) 10 670	24 240 26 194 28 536 28 546 29 460 32 014 41 436 52 564 59 186 80 592	3 120 3 746 1 770 2 298 5 062 7 224 10 162 18 566 24 980 29 936	24 052 28 566 30 680 35 288 36 708 33 040 32 932 35 066 37 064 42 672	(e) 3 996	27 172 32 312 32 450 37 586 41 770 40 264 43 094 53 632 62 044 76 604	1 147 1 031 873 804 760 728 751 787 805 862	1 264 1 030 760 796 732 833 957 1 106 1 125 1 183
1950-51 1951-52 1952-53 1953-54 1954-55 1955-56 1956-57 1957-58 1958-59 1959-60	41 422 26 632 26 098 30 258 24 884 27 764 25 466 26 374	60 636 76 024 76 658 87 438 89 958 99 608 105 788 113 636 121 138 130 014	18 326 20 474 19 936 22 164 19 148 21 166 20 020 19 122 19 718 19 210	104 020 137 920 123 226 135 700 139 364 145 658 153 572 158 224 167 230 176 830	48 514 37 024 43 696 35 466 37 524 40 608 45 004 44 506 43 932 47 730	53 740 71 684 72 804 81 488 85 376 100 630 108 654 109 652 114 424 137 530	6 392 6 018 11 568 13 580 14 494 18 762 18 112 18 354 17 584 20 818	108 646 114 726 128 068 130 534 137 394 160 000 171 770 172 512 175 940 206 078	905 902 1 012 1 060 1 081 1 030 1 161 1 241 1 257 1 308	1 279 1 323 1 480 1 508 1 620 1 586 1 737 1 872 1 966 2 287
960-61 961-62 962-63 963-64 964-65 965-66 966-67 967-68 968-69 969-70	26 788 35 746 35 032 35 717 43 585 51 376 45 024	141 086 141 776 150 620 167 964 170 963 192 732 209 456 220 065 241 398 257 441	19 356 18 000 18 158 19 840 20 819 21 123 20 311 20 590 21 051 20 551	197 650 186 564 204 524 222 836 227 449 257 441 281 143 285 679 299 958 324 989	42 588 57 196 66 792 73 318 87 315 92 007 88 834 76 888 102 061 143 470	143 036 140 794 146 454 173 590 193 371 212 785 224 975 233 694 265 476 286 083	21 944 23 298 21 602 23 424 25 770 25 575 25 680 26 941 25 825 26 287	207 568 221 288 234 848 275 332 306 456 330 367 339 490 337 524 393 362 455 840	1 354 1 533 1 614 1 508 1 472 (f) 1 645 1 684 1 676 1 795 1 759	2 546 3 042 3 474 3 346 3 412 (f) 3 887 4 085 4 102 4 645 5 574
970-71 971-72 972-73 973-74 974-75 975-76 976-77 977-78	94 622	269 022 281 576 289 862 357 805 402 081 503 497 564 231 594 793	19 777 20 622 21 238 24 760 26 850 27 882 30 909 39 388	334 519 341 947 356 145 451 843 529 547 607 641 689 762 749 960	143 198 178 950 218 712 259 745 226 154 250 580 338 657 381 942	277 669 302 608 320 910 404 382 379 933 441 391 485 850 594 441	27 103 29 374 30 626 34 566 31 699 36 280 35 160 38 206	447 970 510 932 570 247 698 692 637 786 728 251 859 667 1 014 589	1 639 1 754 1 788 1 631 1 611 1 536 1 592 1 528	5 338 5 937 7 239 7 225 6 820 6 733 7 258 6 992
978-79	140 652	621 548	74 578	836 829	513 286	627 186	39 727	1 180 199	n.a.	n.a.
979-80	179 780	935 584	53 481	1 168 845	646 827	772 531	32 141	1 451 499	n.a.	n.a.
980-81 981-82 982-83 983-84 984-85 985-86 986-87 987-88 988-89	172 456 166 032 179 819 202 786 389 613 299 398 289 374 282 415 348 647	973 685 1 031 330 1 084 743 1 189 170 1 414 304 (g) n.a. n.a. n.a.	60 922 61 187 74 552 69 735 91 352 (g) n.a. n.a. n.a.	1 207 063 1 258 548 1 339 113 1 461 691 1 895 269 (g) n.a. n.a. n.a.	658 013 647 617 773 133 774 308 1 841 312 1 900 011 1 1 094 664 1 1 221 955 1 1 356 594	837 042 879 421 904 983 075 077 184 681 182 102 322 047 312 699 n.a.	45 171 47 525 50 833 57 768 67 084 74 755 84 175 93 523 149 225	1 540 226 1 574 562 1 728 949 1 907 153 2 093 077 2 156 868 2 500 886 2 628 177 n.a.	n.a. n.a. n.a. (h) 1 739 2 087 1 980 1 858 1 939	n.a. n.a. n.a. n.a. (i) 13 734 15 403 18 810 18 317 18 706

⁽a) Data for 1979-80 onwards are not directly comparable with data for previous years because of revisions to estimating procedures to take account of inadequate documentation available for interstate imports by sea. (b) Data for 1978-79 onwards are not directly comparable with data for previous years. From 1 July 1978 overseas export figures relate to all goods leaving Tasmania for overseas countries. Prior to that date export figures relate to only goods leaving Tasmania for overseas countries for which documents had been lodged with customs in Tasmania. (c) In this section each vessel is recorded as an entry at the first Tasmanian port of call only; intrastate movements are excluded. (d) Collection discontinued until 1922-23. (e) Not collected before 1949-50. (f) From 1966-67 not comparable with previous years; details are now confined to vessels of over 200 registered net tons engaged solely in trade. (g) Figures no longer available, due to discontinuation of the Interstate Imports Collection. (h) Overseas only. (i) Deadweight tonnes.

(Chapter 20) Overseas and Interstate Exports of Selected Commodities, Tasmania

	Sheep skins (with and without wool)		Textile yarn and fabrics	Refi zir		Ores and concentrates	(dres.	nber sed and ressed)
Year	Quantity	Value	Value	Quantity	Value	Value	Quantity	Value
	tonnes	\$'000	\$'000	tonnes	\$'000	\$'000	m2	\$'000
1945-46 1950-51 1955-56 1956-57 1957-58 1958-59 1959-60	. 1 014 . 1 873 . 2 122 . 2 138 . 2 565	326 1 688 1 356 1 796 1 674 1 288 2 078	4 599 9 266 14 674 15 766 16 112 14 166 17 524	75 454 80 836 100 611 105 314 105 541 116 271 115 680	4 214 15 054 19 888 19 662 18 190 20 054 22 922	1 668 5 704 10 836 10 700 8 088 4 824 5 952	73 206 135 668 140 938 146 502 132 242 153 378 177 931	1 132 3 230 6 570 6 874 4 616 6 844 8 952
1960-61 1961-62 1962-63 1963-64 1964-65 1965-66 1966-67 1967-68 1968-69 1969-70	3 050 2 885 3 359 2 676 3 268 3 402 2 722 3 988	1 786 1 892 1 904 2 844 1 953 2 465 2 456 1 369 2 148 1 790	19 188 21 278 19 842 21 918 24 139 24 077 24 102 25 487 27 563 27 784	109 664 133 012 136 302 134 201 141 263 137 257 155 273 120 312 139 479 163 847	21 020 23 680 23 778 27 910 37 327 38 331 41 249 33 106 34 006 42 625	6 760 6 030 6 338 9 102 9 570 11 302 12 560 17 816 44 018 63 478	149 657 134 033 142 979 168 480 189 832 174 297 187 474 183 817 194 936 207 242	9 554 8 588 9 858 11 176 12 811 12 145 13 672 13 492 15 329 16 238
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80	. 3 765 . 3 618 . 2 303 . 2 816 . 2 943 . 2 334 . 2 565 . 2 504	1 684 1 799 3 280 2 926 2 258 2 413 2 765 3 565 3 708 5 417	28 425 29 938 31 680 41 174 31 454 41 656 35 811 33 285 43 815 37 184	142 755 194 259 208 349 190 293 139 253 138 243 162 001 167 870 214 242 185 327	38 163 55 149 63 707 77 143 74 298 74 926 98 318 87 129 122 263 127 264	81 604 88 777 87 543 94 381 91 240 92 588 144 947 164 014 202 415 248 942	200 583 202 331 224 828 270 248 213 428 238 440 313 227 260 738 238 145 291 453	17 201 17 385 27 970 22 556 30 636 25 867 37 083 38 282 38 609 88 238
1980-81 1981-82 1982-83 1983-84 1984-85 1985-86	. 2 713 . 2 239 . 2 557 . 2 615	3 231 3 395 2 841 3 629 4 718 8 065	45 047 46 095 50 073 52 620 57 917 56 835	194 115 199 774 203 759 199 820 198 988 187 518	135 276 162 700 164 424 201 478 233 810 197 594	n.p. n.p. n.p. n.p. n.p. n.p.	265 488 255 366 267 441 234 789 228 837 224 432	85 254 82 206 70 031 84 958 91 223 97 470

		tter utter oil)	Fres apples ar	th fruit ad pears	Me	at	Chee	Cheese		Wool, greasy (a)	
Year	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000	
1950-51	1 293 1 958 4 988 6 101 5 939 7 065 7 864	406 1 173 3 463 3 452 3 420 4 828 5 390	66 820 64 841 92 569 58 836 96 260 87 781 80 683	1 894 6 828 11 498 7 936 14 664 11 338 9 490	186 915 2 470 2 074 2 996 5 469 9 225	34 302 1 076 883 1 190 2 415 3 801	612 63 36 102 101 69 90	112 17 23 73 45 51 64	4 113 5 446 8 387 9 392 10 731 11 415 12 689	1 438 18 688 11 140 16 198 14 260 12 106 15 254	
1961-62	5 419 7 572 8 597 8 8 315 10 374 8 878 9 140 8 992 9 243 12 611	3 298 3 942 4 368 4 372 5 914 5 214 5 259 5 107 5 129 6 950	92 730 122 417 108 438 135 205 99 410 134 482 96 085 115 873 96 242 109 382	11 226 15 572 17 508 19 454 14 260 20 651 11 872 14 647 13 154 14 905	6 896 7 754 9 933 11 018 12 881 12 749 13 727 11 345 12 910 17 084	3 212 3 250 4 737 5 505 6 645 7 038 7 939 7 042 7 989 11 774	60 121 578 895 1 707 2 887 3 530 4 190 1 930 7 267	47 50 269 328 761 1 493 1 642 1 854 884 2 957	11 068 12 341 11 919 11 378 13 756 15 442 16 238 13 994 15 798 16 512	12 560 14 206 15 338 17 604 16 593 20 155 20 373 15 041 18 592 17 821	
1971-72	. 10 664 . 9 829 . 7 437 . 8 269 . 5 012 . 9 720 . 4 363 . 6 248 . 2 561 . 2 871	5 954 8 067 6 104 6 441 4 460 7 527 3 851 5 941 3 146 4 343	96 670 74 848 84 066 92 116 57 473 47 114 24 847 42 257 40 405 45 467	13 474 11 092 11 566 16 458 10 261 8 756 5 732 11 092 11 794 13 826	15 755 21 463 23 061 22 167 18 456 20 883 22 951 20 984 24 569 21 104	10 706 14 161 20 368 22 507 12 237 17 192 20 281 21 557 37 240 41 670	6 259 6 816 6 656 7 730 10 386 9 026 14 552 15 222 16 516 12 188	2 589 3 875 4 085 5 930 7 922 7 633 12 317 14 409 18 247 17 127	17 145 20 413 17 735 16 963 15 947 17 435 16 204 16 390 16 306 13 213	14 350 17 180 34 579 38 319 26 640 31 232 33 685 36 503 38 756 36 630	
1982-83 1983-84 1984-85	. 1 510 413 1 265 2 303 2 692 2 369	2 703 867 3 725 5 384 6 552 7 827	39 932 49 941 39 184 46 543 37 662 42 667	12 467 19 300 22 507 21 594 23 729 33 084	19 718 23 688 30 392 17 432 14 164 16 356	35 890 37 544 53 285 33 667 30 249 37 697	13 302 13 782 11 029 10 001 11 750 11 064	22 414 25 827 23 410 21 235 26 227 27 202	16 356 15 698 15 293 16 199 17 129 17 550	48 422 48 000 48 161 55 513 66 856 69 853	

⁽a) Excludes greasy wool on exported skins.

(Chapter 21) Average Retail Prices (a) of Selected Items of Foodstuffs: Hobart (Cents)

Year	Bread (b)	Tea	Sugar	Potatoes	Butter (factory)	Eggs 1 doz	Bacon rashers	Beef rib without bone	Silver- side (corned) (c)	Lamb (leg) (c)	Lamb chops (loin) (c)	Pork (leg)
	680 g	250 g	2 kg	1 kg	500 g	55 g	250 g	1 kg	1 kg	1 kg	1 kg	1 kg
1901	2.4 2.6 3.2 5.4 4.6 3.4 3.7 4.6 4.6 7.8	6.8 6.8 6.8 7.9 9.6 12.0 12.8 12.6 16.8 12.5 21.3 40.3 38.3	9.3 9.3 9.7 12.8 22.0 16.3 16.8 17.9 17.9 17.9 21.2 36.6 42.3	1.4 2.2 4.7 2.1 1.9 3.7 1.9 2.4 2.2 7.6 20.5 20.2	12.5 11.6 12.1 17.5 23.7 21.2 17.1 15.0 18.4 19.3 27.9 51.0 52.4	10.6 12.9 12.1 14.4 18.8 16.2 12.0 14.9 15.9 20.5 40.8 54.1 57.1	9.3 7.9 11.9 15.5 19.4 16.4 13.0 11.1 16.0 19.3 21.8 34.6 39.5	11.2 11.7 11.7 41.4 22.0 20.3 16.5 15.0 19.8 24.7 42.3 73.4 98.3	9.3 9.3 9.3 16.8 18.1 15.7 13.0 14.6 16.5 20.1 38.1 55.6 85.8	9.0 9.7 8.6 18.1 17.6 17.6 10.8 15.4 15.9 21.2 42.1 55.6 56.2	10.4 10.6 10.6 19.4 20.1 20.7 14.8 16.8 17.2 21.2 40.1 43.9 45.9	11.7 11.2 11.2 21.4 28.7 24.0 17.9 18.1 23.1 26.0 67.2 106.3 119.5
1966	17.0 18.0	36.5	41.8	11.3	56.7	63.0	52.7	119.0	94.6	69.2	57.5	140.2
1968	19.1 20.1	36.6 36.4 35.2 33.9	46.0 49.0 49.2 49.0	15.5 15.2 13.4 14.1	57.3 57.3 59.7 60.6	65.7 62.2 68.3 67.7	54.9 56.3 54.6 55.6	125.9 122.1 116.0 122.6	138.9 135.8 138.9	71.4 108.5 106.3 197.6	62.2 111.8 108.0 109.3	145.1 149.5 147.5 147.5
1971 1972 1973 1974 1974 1975 1976 1977 1978 1979 1980	24.9 27.0 31.2 39.2 45.1 48.8 52.0 57.0	35.3 36.7 35.6 37.2 49.7 53.0 92.3 88.5 79.5 77.3	48.0 48.4 47.9 48.0 52.4 56.7 63.5 68.8 85.3 95.3	14.5 16.3 20.5 30.4 19.6 33.7 26.6 35.8 39.5 45.0	62.0 63.9 63.9 67.5 77.0 85.2 91.5 91.3 94.8	64.4 67.4 75.2 58.8 93.7 109.2 123.4 128.5 138.5 147.5	55.2 56.9 57.6 75.6 91.9 111.6 123.0 126.5 149.5	127.4 127.2 145.3 153.9 136.7 163.1 181.4 202.3 333.8 392.0	144.4 149.9 175.0 201.3 180.8 201.1 218.7 247.5 379.5 441.8	107.4 113.3 148.8 170.9 171.5 197.1 238.9 269.8 332.8 357.5	107.6 114.0 149.3 174.8 173.1 198.2 240.0 277.8 349.3 371.0	148.8 151.9 171.3 220.0 256.6 302.7 326.1 344.5 415.3 464.0
1981 1982 1983 1984 1985 1986 1987	84.3 92.0 92.8 98.0 105.5	79.5 86.5 103.3 140.3 157.0 149.0 152.0 153.3	102.0 115.8 128.5 134.0 139.8 150.3 163.8 173.0	51.5 45.3 59.8 52.8 50.3 61.0 70.0 67.3	119.0 150.8 168.0 171.0 175.8 185.8 184.3 182.5	161.3 169.3 178.0 184.8 194.3 201.0 195.3 211.3	182.5 204.8 218.0 225.8 239.8 242.8 261.0 270.0	404.3 409.0 471.8 498.8 520.0 541.0 557.3 584.5	447.5 441.8 499.5 528.5 538.0 552.8 577.0 619.5	357.5 359.5 375.5 401.3 391.5 401.0 435.0 453.8	378.8 373.8 413.8 440.0 399.8 437.0 498.0 557.8	490.3 540.0 536.3 550.8 575.0 593.0 601.5 628.5

(a) In almost all cases the table units are not necessarily those for which the original price data were obtained. In such cases, prices have been calculated for the table unit. (b) Prior to 1978, bread delivered, 900 g. (c) Prior to 1968 prices shown were for 'Corned beef (brisket), Mutton (leg), Mutton chops (loin)', respectively.

(Chapter 21)

Banking, Tasmania (\$'000)

	Trading banks (including Commonwealth Trading Bank) (a)			Savings banks (b)		(includ	Trading bank. ling Common ading Bank)	wealth	Savings banks (b)
Year	Deposits	Advances	Debits to customers' accounts	Depositors' balances at end of year	Year	Deposits	Advances	Debits to customers accounts	Depositors' balances at end of year
1935-36	n.a.	n.a.	n.a.	13 636	1972-73	159 141	99 192	85 291	288 986
1940-41	n.a.	n.a.	n.a.	17 882	1973-74	207 040	121 077	103 041	328 029
1950-51	53 444	26 636	14 740	54 310	1974-75	229 851	137 189	119 447	382 326
1960-61	76 454	48 010	32 600	94 776	1975-76	277 377	157 951	150 536	430 618
			02 000	3.770	1976-77	348 613	207 635	179 932	477 134
1961-62	78 952	49 340	32 080	102 460	1977-78	375 773	250 144	193 310	530 457
1962-63	83 178	53 176	35 068	112 856	1978-79	415 180	300 811	220 074	587 755
1963-64	86 210	55 122	37 062	124 770	1979-80	425 910	345 930	256 249	642 129
1964-65	94 604	54 176	41 340	135 736					
1965-66	102 507	55 214	43 105	148 401	1980-81	445 257	394 596	287 683	698 917
1966-67	112 091	60 460	47 103	167 106	1981-82	530 987	432 701	318 201	759 111
1967-68	117 811	69 297	51 222	177 827	1982-83	608 867	441 385	337 704	938 178
1968-69	124 473	72 394	55 896	190 043	1983-84	600 500	448 367	366 752	1 103 459
1969-70	131 501	77 603	61 173	199 790	1984-85	643 165	498 526	458 073	1 213 535
1070 71					1985-86	757 601	604 690	506 437	1 256 407
1970-71	133 587	86 976	64 177	217 663	1986-87	783 778	718 654	638 463	1 319 450
1971-72	135 099	88 098	69 970	242 856	1987-88	750 740	813 982	715 992	1 641 564

(a) Average of weekly figures. (b) Commonwealth, trustee and private. Private savings commenced operations in Tasmania as follows: ANZ, September 1961; National, May 1962; CBA, July 1962; CBC, March 1963; and Bank of Adelaide, November 1970. (c) Excludes debits to Government accounts at Hobart City branches.

PUBLICATION OF TASMANIAN STATISTICS

HOW TO OBTAIN CURRENT PUBLICATIONS

General

The Tasmanian Office of the Australian Bureau of Statistics is located at 175 Collins Street, Hobart. Requests for statistical publications can be made by calling at this address; by phoning the Information Officer on Hobart 20 5800; or by writing to the Deputy Commonwealth Statistician, GPO Box 66A, Hobart 7001. Those requiring particular publications on a regular basis should ask to be placed on the publications mailing list.

Service to the public is not restricted to the distribution of publications. If no publication adequately covers the subject matter of the inquiry, then a special extraction of the data required may be undertaken if they are readily available from the basic records held in the Office. The guide, *Catalogue of Publications* (1101.0), includes descriptions of all publications together with a detailed subject index and is available free of charge.

Historical

Before the appointment of the first Government Statistician in Tasmania in 1867, statistics had been published in the official 'Blue Books' compiled by the Colonial Secretary during the period 1822-1855, and in volumes entitled *Statistics of Tasmania* after self-government was granted.

By the Commonwealth and State Statistical Agreement Act 1924, the Tasmanian Parliament ratified an agreement for the establishment of an office in Tasmania of the Australian Bureau of Statistics to meet the statistical needs of the State Government. Provision was made for the Deputy Commonwealth Statistician, a Federal Government officer, to hold, at the discretion of the State Government, the title of (State) Government Statistician. The first officer appointed in this way was L. F. Giblin, D.S.O.M.C., who had previously been the State Government Statistician. (It was not until the late 1950s that similar arrangements were made in the other Australian States.)

Statistics from 1804

In the Archives Office of Tasmania, the following series are available:

- (i) Statistical Account of Van Diemen's Land or Tasmania, 1804 to 1854 compiled by Hugh M. Hull (Office of the Colonial Secretary).
- (ii) Official 'Blue Books' for the period 1822-1855.
- (iii) Statistics of Tasmania annual publications from 1856 to 1922-23.
- (iv) Statistics of the State of Tasmania annual publications commencing 1923-24 and continuing to 1967-68. (Copies of these volumes are held at the University Library, the State Library in Hobart, the Northern Regional Library in Launceston and the Tasmanian Office of the Australian Bureau of Statistics.) Although the bound volume entitled Statistics of the State of Tasmania has been discontinued as from the 1967-68 issue, the component parts are still published as separate bulletins.

Copies of publications listed above, are available for inspection at the Tasmanian Office of the Bureau.

Current Publications of the Tasmanian Office

The Tasmanian Office of the Australian Bureau of Statistics is engaged in a continuous publication program.

The publications can be dissected into annual bulletins and monthly or quarterly press releases. The press releases are issued with a view to making the statistical information available as soon as possible after compilation. Bulletins contain greater detail than press releases, but because of time taken to compile and print, are issued some time after the period to which they refer. The two principal publications issued by the Tasmanian Office of the Bureau are the *Tasmanian Year Book* and *Pocket Year Book of Tasmania*.

The following table lists all recent publications issued by the Tasmanian Office. A similar table is included quarterly in the publication *Tasmanian Statistical Indicators* (1303.6) showing the latest available issues and their dates of publication.

Publications of the Tasmanian Office of the Australian Bureau of Statistics (a)

Cat. No.	Publication
	General
1101.6	Index of Towns, Localities and Standard Area Codes (\$6.00) irr
1301.6	Tasmanian Year Book (\$29.95)
1302.6	Pocket Year Book of Tasmania (\$7.95) a
1303.6	Tasmanian Statistical Indicators (\$8.00) m
1305.6	Tasmania at a Glance a
	Demography and Social
2201.6	Census 86: Characteristics of Persons in Hobart Suburbs irr
2202.6	Census 86: Characteristics of Persons in Launceston Suburbs irr
2203.6	Census 86: Characteristics of Persons in Burnie and Devonport Suburbs and Surrounding Areas in
2401.6	Census 86: Characteristics of the Population and Dwellings in Local Government Areas irr
3203.6	Age Distribution of the Estimated Resident Population in Local Government Areas irr
3204.6	Population Statistics (\$8.00) a
3303.6	Births (\$6.50) a
3304.6	Deaths (\$8.00) a
3305.6	Marriages (\$5.00) a
4101.6	Social Report (\$22.50) irr
4206.6	Education (\$8.00) a
4503.6	Correctional Services (\$8.00) a
4507.6	Court Statistics (\$10.50) a
	Foreign Trade and Finance
5402.6	Foreign Trade (\$3.30) a
5501.6	Government Finance (\$11.50) a
	Labour, Wages and Prices
6301.6	Employment Injuries (\$8.50) a
	Agriculture
7111.6	Principal Agricultural Commodities, (Preliminary) (\$5.00) a
7113.6	Agriculture, Tasmania (at a glance brochure) a
7114.6	Agricultural Statistics (\$16.50) a
7501.6	Value of Agricultural Commodities Produced (\$8.00) a

Publications of the Tasmanian Office of the Australian Bureau of Statistics (a) - continued

Cat. No.	Publication								
	Manufacturing and Mining								
8201.6	Census of Manufacturing Establishments, Summary of Operations by Industry Class (\$8.00) a								
8202.6	Census of Manufacturing Establishments, Details of Operations and Small Area Statistics (\$7.50)								
8203.6	Forest Products ($\$3.30$) q								
8401.6	Mining (\$8.00) a								
	Retail Trade, Tourism and Building								
8622.6	Retail Industry: Details of Operations (\$10.50) irr								
8623.6	Retail Industry: Small Area Statistics, Tasmania (\$8.00) irr								
8626.6	Retail Industry: Establishment Size Statistics (\$8.00) irr								
8635.6	Tourist Accommodation (\$8.50) q								
8637.6	Measures of Tasmanian Tourism (\$7.50) irr								
8638.6	Tasmanian Tourism Measures (at a glance brochure) irr								
8731.6	Building Approvals (\$8.50) m								
8741.6	Dwelling Unit Commencements Reported by Approving Authorities (\$3.30) m								
8752.6	Building Activity (\$8.00) q								
	Transport								
9303.6	Motor Vehicle Registrations (\$3.30) <i>m</i>								
9405.6	Road Traffic Accidents Involving Casualties (\$5.00) q								
9406.6	Road Traffic Accidents Involving Casualties (\$8.00) a								

(a) Prices of publications are current at time of printing. The name of each publication is followed by a symbol indicating the frequency of publication as follows: *m* - monthly, *q* - quarterly, *a* - annual, *irr* - irregular.

Tasmanian Statistics in Central Office Publications

Although publications of the Tasmanian Office of the Australian Bureau of Statistics make available statistics on many aspects of the State, there are some fields in which additional or more frequent information is available in publications of the Central Office. Data may also be available on different media including microfiche, magnetic tape, floppy disk and CD-ROM.

How to Obtain Central Office Publications

Central Office priced publications may be bought direct from the *Australian Bureau of Statistics*, *PO Box 10*, *Belconnen*, *ACT 2616* or from the Tasmanian Office of the Australian Bureau of Statistics. A standing order may also be placed with the Bureau on a pre-paid basis.

Subject Matter of Central Office Publications

The fields of statistical inquiry covered in Central Office publications are very wide (more than 270 different titles are issued annually) and the best way to obtain a guide to the material available is to write to: *The Australian Statistician*, *PO Box 10*, *Belconnen*, *ACT 2616* and ask for the booklet *Catalogue of Publications* (1101.0). Copies of this guide are also available at the Tasmanian Office of the Bureau. This free, comprehensive guide lists the publications of the Central Office and of the State offices; in addition, it contains a subject index to information covered by Central Office publications. Readers with interest in a particular field are invited to call at, or write to, the Tasmanian Office which is in a position to give advice on what publications are available.

INDEX OF SPECIAL ARTICLES

Special articles are indexed to broad subject areas rather than to detailed items; e.g. those of an historical nature are indexed under the entry 'Historical Articles'. The index covers all *Year Books* up to and including this edition.

Aboriginals — Archaeology (Study of the Tasmanian Aborigine) Prehistory of the Tasmanian Aborigines Tasmanian Aboriginals and Their Struggle for Recognition (1876–1982) Tasmanian Aboriginal Rock Carvings The Aborigines Wybalenna, The Tasmanian Aboriginal Settlement on Flinders Island Agent–General for Tasmania in London Apple Industry, Economic Aspects of the Tasmanian Astronomy in Tasmania Australian Broadcasting Commission	1981 (15), pp. 6–15 1982 (16), pp. 510–527 1971 (5), pp. 78–81 1967 (1), pp. 6–10 1973 (7), pp. 10–13 1974 (8), pp. 89, 90 1973 (7), pp. 236–248 1976 (10), pp. 561–568
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Tasmanian Pulp and Forest Holdings Ltd	1975 (9), pp. 307–309
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